# **APPENDIX D**

# Part 7 of 22

Wetland Delineation Data Sheets and Site Photographs

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-18
Applicant/Owner: Enbridge			
Investigator(s): ARK/NTT			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3			
Soil Map Unit Name: Portwing-Herbster complex			
Are climatic / hydrologic conditions on the site typical for this t	•		
Are Vegetation _ ✓ _, Soil, or Hydrology sig			
Are Vegetation, Soil, or Hydrology nat			
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling poin	t locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Samp		
Hydric Soil Present? Yes ✓ No		tland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sepa The wetland is a wet meadow located in	rate report.)	Hoavily grazed ar	nd disturbed by
current cattle management.	a siliali depression	. Heavily grazed at	id disturbed by
Current cattle management.			
HYDROLOGY			
Wetland Hydrology Indicators:		<del></del>	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		<del></del>	
	-Stained Leaves (B9)	Drainage Pa	
	ic Fauna (B13)	Moss Trim L	
	Deposits (B15) gen Sulfide Odor (C1)		Water Table (C2)
	ed Rhizospheres on Living R	Crayfish Bur	fisible on Aerial Imagery (C9)
	nce of Reduced Iron (C4)		Stressed Plants (D1)
	nt Iron Reduction in Tilled Soil		
	Nuck Surface (C7)	<u>√</u> Shallow Aqu	
	(Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(Explain in Remarks)	FAC-Neutral	
Field Observations:			1 1 001 (20)
Surface Water Present? Yes No _✓ Deptl	n (inches):		
Water Table Present? Yes No _✓ Deptl			
Saturation Present? Yes No ✓ Deptl	n (inches):	Wetland Hydrology Preser	nt? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, ae	rial nhotos, previous inspecti	ons) if available:	
Docombo Nocorded Data (etrodin gauge, membering won, as	Tial priotos, provious moposis	onoj, ii avaliabio.	
Remarks: Dense clay soils retain water within the f	eature		
Derise day sons retain water within the r	catare.		

**VEGETATION** – Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1.0 (A)
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>25.0</u> x 1 = <u>25.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species x 2 =0.0
1.				FAC species 5.0 x 3 = 15.0
2				FACU species <u>50.0</u> x 4 = <u>200.0</u>
3				UPL species 0.0 x 5 = 0.0
4				Column Totals: <u>80.0</u> (A) <u>240.0</u> (B)
5				Prevalence Index = B/A =3.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	· · · · · · · · · · · · · · · · · · ·	2 - Dominance Test is >50%
Harb Stratum (Diet size) 5'	0.0	= 10(a) C0	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Poa pratensis	50.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Scirpus hattorianus</u>		Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Ranunculus acris		N	FAC	
4. Persicaria hydropiper		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	80.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Vegetation is grazed and dominated by		ky blue	grass aı	nd mosquito bulrush.

Sampling Point: wasa079e\_w

SOIL Sampling Point: wasa079e\_w

Profile Desc	cription: (D	escribe 1	to the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Color (r	Matrix	%	Color (n		<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3		2/2	100		10101)		1,750		CL	Tomano
3-8	10YR	5/2		10YR	5/6	5	С	M	SIL	Prominent redox
8-18	5YR	4/3	90	7.5YR	5/6	10	С	M	С	Prominent redox
Hydric Soil  Histosol Histic E Black H Hydroge Stratifiee Deplete Thick De Sandy M Sandy F Stripped Dark Su	C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Soil Indicators:  tosol (A1)				R R, _RA 149B) , L)	Indicators  2 cm I Coast 5 cm I Dark S Polyva Thin D Iron-M Piedm Mesic Red P Very S Other	n: PL=Pore Lining, M=Matrix.  6 for Problematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  alue Below Surface (S8) (LRR K, L)  Dark Surface (S9) (LRR K, L)  Janganese Masses (F12) (LRR K, L, R)  Mont Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  Parent Material (F21)  Shallow Dark Surface (TF12)  (Explain in Remarks)			
Туре:										
Depth (in	ches):								Hydric Soil	Present? Yes No
Depth (inches):										



wasa079e\_w\_N



wasa079e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/NTT/DGL/AR	<	
File #:	Date of visit(s):		
wasa079	09/14/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-004W-02</u>	Superior Coastal Plain		
	Superior Coastai i iairi		
Lat: <u>46.399738</u> Long: <u>-90.831949</u>	Watershed:		
	LS12 Marengo River		
County: Ashland Town/City/Village: Marengo town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B, Portwing-Herbster complex, 0 to 6 percent slopes	Wetland Type(s):		
	PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. The soils consist of a clay	Wetland Size:	Wetland Area Impacted	
loam over a silty loam over a clay texture.	0.06	0.06	
	Vegetation:		
	Plant Community D	Description(s):	
Hydrology:		dominated by opportunistic	
The wetland feature is saturated and receives	hydrophytic graminoids. The plant community is		
runoff from the surrounding area. The small	influenced by cattle movement and grazing, and consists		
		y blue grass and mosquito bulrush.	
depression has standing water throughout.			
	]		

SITE MAP		

### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Susually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Lust 7 I or adjacent to RED FLAG areas 8 N N Suspens or provides habitat for endangered, threatened or special concern species 9 N N Widtline Habitat 1 N N Wetland and contiguous habitat >10 acres 2 N N 3 or more stratal present (- 10% cover) 3 N N Within or adjacent to habitat cornidor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50%(south) 75% (north) infact 5 N N Occurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh.shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephermeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat acrea in the area (urban, agricultural, etc.) 113 N N V Standing water provides habitat for amphibians and aquatic invertebrates 114 N N V Standing water provides habitat for amphibians and aquatic invertebrates 115 N N V Standing water provides habitat for amphibians and aquatic invertebrates 116 N N Provides habitat scarce in the area (urban, agricultural, etc.) 117 Fish and Aquatic Life Habitat 1 N N V Standing water provides habitat for amphibians and aquatic invertebrates 1 N N V Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N N Wetland is connected or configuous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N Septimer Provides habitat scarce in the area (urban, agricultural, etc.) 1 N N Septimer Prov				
N N N   Visually or physically accessible to public   N N N   Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation		N	N	
N	2	N	N	Used for educational or scientific purposes
S	3	N	N	Visually or physically accessible to public
N N   List:	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N   List:	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
WH	7			
1 N N Welland and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Welland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Consider the stream is not water stream; lake water levels or high flows – if no, not applicable 3 NA NA Consider the stream is NA NA Poensely rosted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through welland is NOT channelized 3 N N N Welthin a watershed with <10% wetland 4 N N Point or non-point source inflow Water Quality Protection 4 N N N Within a watershed with <10% wetland 5 N N Point or non-point source inflow Water Quality Protection 5 N Y Point or non-point source inflow Water Quality Protection 6 N N Signs of excess nutrities, such as lake or stream 9 N N N Weltand to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 N N N Signs of excess nutrities, such as algae blooms, heavy macrophyte growth 5 N Y Dense,	WH			1 7
2		N	N	
3				
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9	0			
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3			1	
4       N       Y       Vegetation is inundated in spring         SP       Shoreline Protection         1       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         2       NA       NA       Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable         3       NA       NA       Densely rooted emergent or woody vegetation         5T       Storm and Floodwater Storage         1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       N       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       Y       Y       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section	$\vdash$			• 1
SP  Shoreline Protection  NA  NA  Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable  Both NA  NA  Densely rooted emergent or woody vegetation  Str  Storm and Floodwater Storage  1	3	N	N	
1 NA NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable  3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N Y Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland soils are organic		N	Υ	
Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows — if no, not applicable  3	SP			Shoreline Protection
NA	1	NA	NA	
NA	2	NIA	NIA.	
ST Storm and Floodwater Storage  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Water flow through wetland is NOT channelized  3 N Y Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 Y Point or non-point source inflow  6 N N Impervious surfaces cover >10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water Quality Protection  1 N Y Provides substantial storage of storm and floodwater based on previous section  2 Y Y Basin wetland or constricted outlet  3 Y Y Water flow through wetland is NOT channelized  4 Y Y Vegetated wetland associated with a lake or stream  5 N Y Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N Y Stormwater or surface water from agricultural land is major hydrology source  8 N Y Discharge to surface water  9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N N Wetland soils are organic		INA	INA	water levels or high flows – if no, not applicable
1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       N       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       Y       Y       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N		NA	NA	Densely rooted emergent or woody vegetation
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3       N       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       Y       Y       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       Y       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       N       N       N <td>1</td> <td>Υ</td> <td>Υ</td> <td>Basin wetland, constricted outlet, has through-flow or is adjacent to a stream</td>	1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
3         N         Y         Dense, persistent vegetation           4         N         N         Evidence of flashy hydrology           5         Y         Y         Point or non-point source inflow           6         N         N         Impervious surfaces cover >10% of land surface within the watershed           7         N         N         Within a watershed with <10% wetland	2	Υ	Υ	Water flow through wetland is NOT channelized
5       Y       Y       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with <10% wetland	3		i e	Dense, persistent vegetation
5       Y       Y       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with <10% wetland	4	N	N	Evidence of flashy hydrology
6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       Y       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       N       N       N Natural land cover in 100m buffer area < 50%	5			
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WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         Y         Y         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         N         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         Y         Stormwater or surface water from agricultural land is major hydrology source           8         N         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%	$\overline{}$			
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8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
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3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic		N	N	
	$\overline{}$	N	N	
5 N N Wetland is within a wellhead protection area	$\overline{}$	N	N	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)
ST-5: Wetland receives agricultural runoff from adjacent cattle enclosure.
WQ-4: Wetland is associated with small ephemeral stream, and may contain standing water early in the growing season or during period of high rainfall.

Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Υ	The wetland may provide habitat for species which occupy disturbed areas.

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Y	ure has standing water present and may provide habitat for amphibians, reptiles, and aquatio

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 🗸	S3 🗌	S2 🗌	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Poa pratensis			PEM	Abundant
Scirpus hattorianus			PEM	Common
Ranunculus acris			PEM	Uncommon
Persicaria hydropiper			PEM	Uncommon
-				

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The feature has low species diversity, and is disturbed by cattle presence. Invasive species dominance further reduces floristic integrity.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	X		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
X	Х		M	С	Agriculture – pasture
	Х		M	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			D 4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland, as well as the surrounding water body and upland, are used by cattle. The wetland contains invasive
species, and is potentially polluted runoff from the nearby cattle enclosure and grazing area.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Feature has low diversity and considerable non-native species cover.
Human Use Values	No recreational or research opportunities. The feature is visible to nearby residential land use.
Wildlife Habitat	Small graminoid-dominated basin surrounded by sparse tree cover.
Fish and Aquatic Life Habitat	The wetland likely rarely holds standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	Small somewhat densely vegetated depression surrounded by sparse tree cover and cattle pasture.
Water Quality Protection	Water quality protection potential is limited by the feature's vegetation density and size.
Groundwater Processes	The feature experiences recharge hydrology and shows minimal signs of groundwater processes

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-18			
Applicant/Owner: Enbridge						
Investigator(s): ARK/NTT			· -			
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests Lat:						
Soil Map Unit Name: Portwing-Herbster comp	•	•				
Are climatic / hydrologic conditions on the site typical for						
Are Vegetation, Soil, or Hydrology		Are "Normal Circumstances" pre	esent? Yes <u>√</u> No			
Are Vegetation, Soil, or Hydrology	_ naturally problematic?	(If needed, explain any answers	in Remarks.)			
SUMMARY OF FINDINGS – Attach site ma	p showing sampling poi	nt locations, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	pled Area				
Hydric Soil Present? Yes	W a midhius (M	etland? Yes	No			
Wetland Hydrology Present? Yes		onal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a sample point located in a cattle pastu	separate report.) Ire with some tree cov	er.				
HYDROLOGY  Western Hydrology Indicators:		Capandan Indicate				
Wetland Hydrology Indicators:	- II the at a second A		ors (minimum of two required)			
Primary Indicators (minimum of one is required; check a		Surface Soil Cracks (B6)				
	Vater-Stained Leaves (B9)  .quatic Fauna (B13)	Drainage Patterns (B10)				
	Marl Deposits (B15)	<ul><li> Moss Trim Lines (B16)</li><li> Dry-Season Water Table (C2)</li></ul>				
	lydrogen Sulfide Odor (C1)	Dry-season water rable (C2) Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living					
Drift Deposits (B3)	resence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)	ecent Iron Reduction in Tilled Sc	oils (C6) Geomorphic P	osition (D2)			
	hin Muck Surface (C7)	Shallow Aquitard (D3)				
	Other (Explain in Remarks)					
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral T	est (D5)			
Field Observations:						
	Depth (inches):					
	Depth (inches):	Wadaa dibahalaan Baasan	0 V N- (			
Saturation Present? Yes No _✓_ (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present	? Yes No <u>√</u>			
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspec	tions), if available:				
Remarks:						
No wetland hydrology indicators were	e observed.					

**VEGETATION** – Use scientific names of plants.

<u>'</u>	ı			Sampling Point: was			
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Acer rubrum				Number of Dominant Species That Are OBL, FACW, or FAC: 2	(A)		
Betula alleghaniensis					_ ('')		
				Total Number of Dominant Species Across All Strata: 4	(B)		
				Percent of Dominant Species			
i				That Are OBL, FACW, or FAC: 50.00	_ (A/B)		
5.							
7.				Prevalence Index worksheet:			
		= Total Co					
Sapling/Shrub Stratum (Plot size:15' )		= 10tai 00	VOI	FACW species $0 \times 2 = 0$			
				FAC species 30 x 3 = 90			
				FACU species			
				UPL species <u>5</u> x 5 = <u>25</u>			
3				Column Totals:105 (A)395_	(B)		
l				Prevalence Index = B/A = 3.76			
5							
)				Hydrophytic Vegetation Indicators:			
·				<ul><li>1 - Rapid Test for Hydrophytic Vegetation</li><li>2 - Dominance Test is &gt;50%</li></ul>			
	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹			
Herb Stratum (Plot size: 5' )				4 - Morphological Adaptations <sup>1</sup> (Provide s	upporting		
. <u>Poa pratensis</u>		<u>Y</u>	FACU	data in Remarks or on a separate shee	,		
2. <u>Trifolium repens</u>		<u>Y</u>	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Exp	olain)		
3. <u>Leucanthemum vulgare</u>	5	_N_	<u>UPL</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrolog	v must		
4			·	be present, unless disturbed or problematic.	,		
5				Definitions of Vegetation Strata:			
3				Tree – Woody plants 3 in. (7.6 cm) or more in	diamete		
7				at breast height (DBH), regardless of height.	diamoto		
3				Sapling/shrub – Woody plants less than 3 in.	DBH		
9				and greater than or equal to 3.28 ft (1 m) tall.			
10.				Herb – All herbaceous (non-woody) plants, re			
1				of size, and woody plants less than 3.28 ft tall.			
12	- ·			Woody vines - All woody vines greater than 3	3.28 ft in		
	75	= Total Co	ver	height.			
Voody Vine Stratum (Plot size: 30')							
·							
2.							
3.				Hydrophytic			
				Vegetation			
1				Present? Yes No/			
4	0.0	= Total Co	vei				

SOIL Sampling Point: wasa079\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	ndicators.)
Depth (in all as)	Matrix	0/	Redo Color (moist)	x Feature:	-	1 2	Taratrasa	Remarks
(inches) 0-6	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
6-18	7.5YR 4/3	100					SICL_	
	-							
	-							
				-				
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		_=Pore Lining, M=Matrix. Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalue Belov	w Surface	(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)	•	MLRA 149B)	)			Coast Prair	rie Redox (A16) (LRR K, L, R)
l ——	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					y Peat or Peat (S3) ( <b>LRR K, L, R</b> ) ce (S7) ( <b>LRR K, L</b> )
	d Layers (A5)		Loamy Gleyed			, <b>-</b> )		Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark \$				_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)	•	Redox Depress		.,			dic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)							t Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149B	)					ow Dark Surface (TF12) lain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	oppos):						Hydric Soil Pre	sent? Yes No _✓_
Remarks:	ches):						11,000000000000000000000000000000000000	<u></u>
	c soil indicator	s obser	ved.					



wasa079\_u\_N



wasa079\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-18
•	State: WI Sampling Point: wasa078e_w
_	Section, Township, Range: 045N-004W-02
	Local relief (concave, convex, none): Concave Slope (%): 0-2%
	131 Long: <u>-90.831097</u> Datum: <u>WGS84</u>
	cent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time o	•
	ntly disturbed? Are "Normal Circumstances" present? Yes _ ✓ No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes No	- 141 M 41 10 M 4 / N
Wetland Hydrology Present? Yes ✓ No	
Remarks: (Explain alternative procedures here or in a separate re	eport.) d within a grazed cattle pasture. Feature is part of a
larger wetland complex.	u within a grazed cattle pasture. I eature is part of a
larger wettarid complex.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
Surface Water (A1) Water-Stain	
High Water Table (A2)  Aquatic Fau  Soturation (A2)  Mark Dance	
Saturation (A3) Marl Depos Water Marks (B1) Hydrogen S	
	ulfide Odor (C1) Crayfish Burrows (C8)  izospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6)  Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck S	
	ain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)
Field Observations:	<u></u> 1716 11641141 1361 (20)
Surface Water Present? Yes No ✓ _ Depth (incl	nes):
Water Table Present? Yes No Depth (incl	
Saturation Present? Yes No ✓ Depth (incl	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial pl	notos pravious inspections) if available:
Describe Necorded Data (stream gauge, monitoring well, acrial pr	intos, previous inspections), il available.
Remarks: Geomorphic position and FAC-Neutral test a	are met
Geomorphic position and 1 AG-Neutral test a	ile illet.

**VEGETATION** – Use scientific names of plants.

/EGETATION - Use scientific names of plants				Sampling Point: wasa078e_w
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.00_ (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Co	over	OBL species5 x1 =5
Sapling/Shrub Stratum (Plot size: 15')				FACW species15
1. <u>Ilex verticillata</u>	5	<u>Y</u>	<u>FACW</u>	FACU species
2				UPL species
3				Column Totals: 101 (A) 278 (B)
4				
5				Prevalence Index = B/A = 2.75
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Echinochloa crus-galli	75.0	Υ	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Persicaria hydropiper			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. Bidens frondosa		N	FACW	
4. Impatiens capensis			FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Ranunculus acris			FAC	
6. <u>Prunella vulgaris</u>			FAC	Definitions of Vegetation Strata:
7. Symphyotrichum lateriflorum				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9		-		
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				Woody vines All woody vines greater than 2.29 ft in
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
201	96	= Total Co	over	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes ✓ No
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate Portion of feature grazed by cattle. The	sheet.)			ed by barnyard grass.

SOIL Sampling Point: wasa078e\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix				x Features		. 2		
(inches)	Color (moist)	%	Color (n	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-6	7.5YR 3/3	100						CL	
6-18	7.5YR 4/3	_90_	<u>10YR</u>	5/8	_10_	C	_M_	SICL	Prominent redox
	-								
			-			-			
	-				. ——				
	oncentration, D=Dep	oletion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil									s for Problematic Hydric Soils <sup>3</sup> :
Histoso	l (A1) pipedon (A2)			lue Belov R <b>A 149B</b> )	w Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)			- /		RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	1) (LRR K		Dark S	Surface (S7) (LRR K, L)
	d Layers (A5)	(* 4 4)		-	Matrix (F2	)			alue Below Surface (S8) (LRR K, L)
-	d Below Dark Surfact ark Surface (A12)	e (A11)		ed Matrix	(F3) rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)				Surface (F6)	7)			nont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)				ions (F8)	.,			Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)								Parent Material (F21)
	d Matrix (S6)	MI DA 440	<b>3</b> \						Shallow Dark Surface (TF12)
Dark St	ırface (S7) (LRR R, I	VILKA 1491	3)					Other	(Explain in Remarks)
	of hydrophytic vegeta		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	c.
Restrictive	Layer (if observed)	:							
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks:									
Readish	clay loam with	n reaox	presen	belov	v 6 inc	nes.			



wasa078e\_w\_E



wasa078e\_w\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocati	on Proiect	City/C	County: Ashl	land		Sampling Date: _2	<u> 2019-10-18</u>
Applicant/Owner: Enbridge	•						
Investigator(s): ARK/NTT							
Landform (hillslope, terrace, etc.):							
Subregion (LRR or MLRA): Northc							
Soil Map Unit Name: Portwing:							
Are climatic / hydrologic conditions							
Are Vegetation, Soil							No
Are Vegetation, Soil	_, or Hydrology	naturally problema	atic? (If	f needed, exp	lain any answers	in Remarks.)	
SUMMARY OF FINDINGS -	<ul> <li>Attach site n</li> </ul>	nap showing sam	npling poin	t location	s, transects, i	important fea	atures, etc.
Hydrophytic Vegetation Present?			Is the Samp				
Hydric Soil Present?		No	within a We	tland?	Yes <u>√</u>	No	
Wetland Hydrology Present?		No	If yes, option	al Wetland S	ite ID:		
Remarks: (Explain alternative pro Hardwood swamp com	ocedures here or in	a separate report.) wetland domin	nated by (	auakina :	asnen Enhe	emeral stre	am feeds
<u> </u>	•	wettaria domin	nated by t	quaining c	дорон. Ернс		ani iccus
into the wetland and dis	sperses.						
HYDROLOGY							
Wetland Hydrology Indicators:				S	econdary Indicato	ors (minimum of t	wo required)
Primary Indicators (minimum of or	ne is required: chec	k all that apply)			_ Surface Soil Cr		
Surface Water (A1)		Water-Stained Leave			Drainage Patte		
High Water Table (A2)		Aquatic Fauna (B13)			Moss Trim Line		
Saturation (A3)		Marl Deposits (B15)			Dry-Season Wa		
Water Marks (B1)		Hydrogen Sulfide Ode	or (C1)	_	_ Crayfish Burrov	ws (C8)	
Sediment Deposits (B2)		Oxidized Rhizosphere	es on Living R	oots (C3) _	Saturation Visit	ble on Aerial Ima	agery (C9)
Drift Deposits (B3)		Presence of Reduced			_ Stunted or Stre		)
Algal Mat or Crust (B4)		Recent Iron Reductio			Geomorphic Popular		
Iron Deposits (B5)		Thin Muck Surface (C			_ Shallow Aquita		
Inundation Visible on Aerial Ir		Other (Explain in Ren	narks)	_	_ Microtopograph		
Sparsely Vegetated Concave Field Observations:	Surrace (B8)				_ FAC-Neutral Te	est (D5)	
	os No /	_ Depth (inches):					
		Depth (inches):					
		Depth (inches):		Wetland Hw	drology Present?	2 Yes /	No
(includes capillary fringe)		_ , , ,				1 1 CS	140
Describe Recorded Data (stream	gauge, monitoring	well, aerial photos, pre	vious inspection	ons), if availa	ble:		
Remarks:							
An ephemeral stream f	lows into the	wetland, draini	ing the ne	earby cat	tle pasture.		
'		,	J	,	•		

**VEGETATION** – Use scientific names of plants.

VEGETATION - Use scientific names of plants				Sampling Point: wasa078f_w
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC:3.0 (A)
2. Fraxinus pennsylvanica			FACW	
3. Abies balsamea			FAC	Total Number of Dominant Species Across All Strata: 5.0 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)
6.				
7				Prevalence Index worksheet:
	75.0 =			
Sapling/Shrub Stratum (Plot size: 15')	<u> 75.0</u> =	= Total Co	vei	FACW species 20.0 x 2 = 40.0
				FAC species $\frac{70.0}{4} \times 3 = \frac{210.0}{4}$
1				FACU species 20.0 x 4 = 80.0
2				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals: <u>120.0</u> (A) <u>340.0</u> (B)
4				Prevalence Index = B/A =2.8
5				
6			<del> </del>	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Carex intumescens	15.0	Y	<b>FACW</b>	data in Remarks or on a separate sheet)
2. Carex crinita	10.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Fragaria virginiana</u>			<u>FACU</u>	1
4. <u>Mitchella repens</u>			FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6.				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
				Woody vines – All woody vines greater than 3.28 ft in
12	45.0	Total Co		height.
Manda Vina Caratium (Districe)	<u> 40.0</u> =	= Total Co	vei	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes _ ✓ No
	0.0_=	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate The vegetation is dominated by quakin	sheet.)	and so	dans A	portion of the wotland is grazed
The vegetation is dominated by quakin	y aspen	and se	ayes. A	portion of the wettand is grazed.

SOIL Sampling Point: wasa078f\_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth		Matrix	0/	Calar (a		x Features		1 2	Taratrana	Domonto	
(inches)	Color (r		400	Color (n	10151)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
0-6	10YR		100		- 12				SICL		
6-18	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Prominent redox	
<sup>1</sup> Type: C=C	oncentration	n, D=Depl	etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil									Indicators	s for Problematic Hydric Soils <sup>3</sup> :	
Histoso	l (A1) pipedon (A2	۸		-	lue Belov RA 149B)	v Surface	(S8) ( <b>LR</b> I	RR,		Muck (A10) (LRR K, L, MLRA 149B)	
	istic (A3)	)			- /		.RR R, M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	en Sulfide (A			Loamy	Mucky N	/lineral (F1	) (LRR K		Dark	Surface (S7) (LRR K, L)	
	d Layers (At d Below Dar		- (Δ11)		Gleyed I ed Matrix	Matrix (F2)	)			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)	
	ark Surface		<i>(</i> A11)			rface (F6)				Manganese Masses (F12) (LRR K, L, R)	
	Mucky Miner					Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)	
	Gleyed Matri Redox (S5)	x (S4)		Redox	Depress	ions (F8)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )	
	d Matrix (S6)	)							✓ Red Parent Material (F21)  ✓ Very Shallow Dark Surface (TF12)  ✓ Terms of the property		
	ırface (S7) (		ILRA 149	<b>B</b> )						(Explain in Remarks)	
<sup>3</sup> Indicators of	of hydrophyti	c vegetat	ion and w	etland hydro	loav mus	t be prese	ent. unles:	s disturbed	or problemati	c	
Restrictive		-		J. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	.09)	. 50 p. 600	,	3 4.014.204	σ. ρ.συ.σα	<u>.                                    </u>	
Type:											
Depth (in	iches):								Hydric Soi	I Present? Yes No	
Remarks:									•		
Red clay	with red	oox be	NOW 6	ncnes.							



wasa078f\_w\_N



wasa078f\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL/ARM	(	
File #: wasa078	Date of visit(s): 09/14/2019		
Location: PLSS: <u>045N-004W-02</u>	Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.400431 Long: -90.831097  County: Ashland Town/City/Village: Marengo town	Watershed: LS12 Marengo River		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class:		
280D, 480B, Odanah silt loam, 15 to 25 percent slopes, Portwing-Herbster complex, 0 to 6 percent slopes  Field Verified:	Wetland Type(s): PFO/PEM complex - Hardwood Swamp/Fresh Wet Meadow		
Series not verified. The soils consist of a clay over a silty clay loam and a silty clay loam over a	Wetland Size: 2.12	Wetland Area Impacted 2.12	
clay.	Vegetation: Plant Community D	Description(s):	
Hydrology: The wetland feature is saturated and makes up the end of an ephemeral waterbody.	The emergent component has a dense herbaceous layer dominated by barnyard grass. The forested component is dominated by quaking aspen and sedges.		

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	Ν	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	
	N	N	Occurs in a Joint Venture priority township
6	Υ	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	Ν	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	14/1	19/3	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	INA	INA	Storm and Floodwater Storage
1	V	V	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	<u> </u>
	N	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Ν	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
	1/1		
9		N	Natural land cover in 100m buffer area < 50%
9 GW	N	N	Natural land cover in 100m buffer area < 50%  Groundwater Processes
GW	N		Groundwater Processes
GW 1	N N	N	Groundwater Processes Springs, seeps or indicators of groundwater present
GW 1 2	N N N	N N	Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
GW 1 2 3	N N N	N N N	Groundwater Processes  Springs, seeps or indicators of groundwater present  Location near a groundwater divide or a headwater wetland  Wetland remains saturated for an extended time period with no additional water inputs
GW 1 2	N N N	N N	Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Section 1 Comments (Refer to Section 1 numbers) ST-5: Wetland receives agricultural runoff from adjacent cattle enclosure. WQ-4: Wetland is associated with small ephemeral stream and may experience standing water early in the growing season or during periods of high rainfall. Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Potential songbird, invertebrate, small mammal habitat. Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat The feature appears to have standing water during portions of the year

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Traine Community intogrety (Circle)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%√		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
llex verticillata			PEM	Uncommon
Echinochloa crus-galli			PEM	Abundant
Persicaria hydropiper			PEM	Uncommon
Bidens frondosa			PEM	Uncommon
Impatiens capensis			PEM	Uncommon
Ranunculus acris			PEM	Uncommon
Prunella vulgaris			PEM	Uncommon
Symphyotrichum lateriflorum			PEM	Uncommon
Populus tremuloides			PFO	Abundant
Fraxinus pennsylvanica			PFO	Uncommon
Abies balsamea			PFO	Uncommon
Carex intumescens			PFO	Common
Carex crinita			PFO	Common
Fragaria virginiana			PFO	Common
Mitchella repens			PFO	Common

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The emergent and forested components are somewhat low diversity, with disturbance-favoring species present. Some invasive cover is present in the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
X	Х		M	С	Agriculture – pasture
	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			N 4		Removal of herbaceous stratum – mowing,
X	X		M		grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		M	С	Cover of non-native and/or invasive species
	Х		M	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland, as well as the surrounding waterbody and upland, are used by cattle. The wetland has some non-native
cover and polluted runoff in the form of manure content.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Species diversity is fairly low, with some non-native cover.
Human Use Values	No recreational or research opportunities. The feature is visible to nearby residential land use.
Wildlife Habitat	Small graminoid-dominated basin with sparse tree cover. Occasional standing and running water provides moderate wildlife habitat for terrestrial and, to a lesser degree, aquatic species.
Fish and Aquatic Life Habitat	The wetland is associated with an intermittent waterbody, which may provide aquatic species habitat.
Shoreline Protection	N/A
Flood and Stormwater Storage	Moderately vegetated feature associated with intermittent stream.
Water Quality Protection	Water quality potential is limited by the feature's vegetation density.
Groundwater Processes	The feature experiences recharge hydrology and shows minimal signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-18
•			
Investigator(s): ARK/NTT			
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Odanah silt loam, 1:			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation ✓, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the San	npled Area	
	No ✓ within a V	Vetland? Yes	No <u>√</u>
		onal Wetland Site ID:	_
Remarks: (Explain alternative procedures here of			
The upland point is located within	a caule pasture.		
HYDROLOGY			
Wetland Hydrology Indicators:		<u> </u>	ators (minimum of two required)
Primary Indicators (minimum of one is required; c			
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	<ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on Living</li></ul>	Crayfish Bu	/isible on Aerial Imagery (C9)
	Oxidized Rhizospheres on Living     Presence of Reduced Iron (C4)		Stressed Plants (D1)
1 — · · · ·	Recent Iron Reduction in Tilled S	<del></del>	c Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		· -	Il Test (D5)
Field Observations:			, ,
Surface Water Present? Yes No	✓ Depth (inches):		
Water Table Present? Yes No	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous inspe	 ctions), if available:	
, , ,		,,	
Demonto			
Remarks: No wetland hydrology indicators v	vere observed		
Two worlding flydrology fridioacoro v	1010 00001 VOG.		

**VEGETATION** – Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?	-	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2	_	-	·	Total Number of Dominant
3	<u> </u>			Species Across All Strata: (B)
4				Percent of Dominant Species
5	_			That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species 2 x 3 = 6
2				FACU species <u>92</u> x 4 = <u>368</u>
				UPL species0 x 5 =0
3				Column Totals: <u>94</u> (A) <u>374</u> (B)
4				Prevalence Index = B/A = 3.98
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5')	75	V	EACH	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Poa pratensis			FACU	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Trifolium repens</u>			FACU	Problematic Hydrophytic Vegetation (Explain)
3. <u>Prunella vulgaris</u>			FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Taraxacum officinale</u>			<u>FACU</u>	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	_		·	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	_			at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10	_	-		Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')		. 0.0.		
1				
2				
3			·	Hydrophytic Vegetation
4				Present? Yes No ✓
Demostrar (Include photo numbers have as an account		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Sample plot is dominated by Kentucky	<sub>sneet.)</sub> blueara	ss with	other lo	w stature vegetation.
, ,	3			3

Sampling Point: wasa078\_u

SOIL Sampling Point: wasa078\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	ndicators.)	
Depth	Matrix	0/		x Feature:	-	1 2	Taratrasa	Damadia	
(inches) 0-4	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
4-18							SCL		
4-10	101K 3/3	100					SCL _		
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		_=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :	
Histosol			Polyvalue Belov	w Surface	(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B)	
Histic E	pipedon (A2)	•	MLRA 149B)	)			Coast Prair	rie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N				5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L)		
	d Layers (A5)		Loamy Gleyed			, <b>-</b> )		Below Surface (S8) (LRR K, L)	
-	d Below Dark Surface	e (A11)	Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)		
Thick Dark Surface (A12) Redox Dark Surface (F6)					_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)			
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)							dic (TA6) ( <b>MLRA 144A, 145, 149B</b> )		
Sandy Redox (S5)						t Material (F21)			
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)					<ul><li>Very Shallow Dark Surface (TF12)</li><li>Other (Explain in Remarks)</li></ul>				
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.									
	Layer (if observed):								
Type:	abas):						Hydric Soil Pre	sent? Yes No _✓_	
Remarks:	ches):						11,41110 0011110	<u></u>	
	c soil indicator	s obser	ved.						



wasa078\_u\_N



wasa078\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	_ Sampling Date: <u>2019-10-18</u>				
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa080e_w				
Investigator(s): ARK/NTT	Section, Township	, Range: <u>045N-004W-</u>	11				
Landform (hillslope, terrace, etc.): Depression							
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.							
Soil Map Unit Name: Cornucopia silt loam, 6 to 1							
Are climatic / hydrologic conditions on the site typical for this ti	•						
Are Vegetation, Soil, or Hydrology sign							
Are Vegetation, Soil, or Hydrology nat	urally problematic? (	(If needed, explain any answe	ers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes ✓ No _	Is the Sam	pled Area					
Hydric Soil Present? Yes ✓ No	within a M.	etland? Yes <u>√</u>	No				
Wetland Hydrology Present? Yes   ✓ No		nal Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a separ	rate report.)						
The wetland is located in a low-lying dep		•					
and has very little vegetation and part of	the wetland is in a	managed hay field	. The wetland as a				
whole slopes slightly to the north.							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that	at apply)	Surface Soi	l Cracks (B6)				
Surface Water (A1) Water-	Drainage Patterns (B10)						
High Water Table (A2) Aquati	ic Fauna (B13)		Moss Trim Lines (B16)				
	Deposits (B15)		Dry-Season Water Table (C2)				
	gen Sulfide Odor (C1)	Crayfish Bu					
	ed Rhizospheres on Living I		/isible on Aerial Imagery (C9)				
	nce of Reduced Iron (C4)		Stressed Plants (D1)				
			Position (D2)				
Iron Deposits (B5)       Thin Muck Surface (C7)       Shallow Aquitard (D3)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)       Microtopographic Relief (D4)							
Inundation Visible on Aerial Imagery (B7) Other Sparsely Vegetated Concave Surface (B8)	(Explain in Remarks)	Microtopogr					
Field Observations:		FAC-Neutra	ir rest (D3)				
Surface Water Present? Yes No _✓ Depth	ı (inches):						
Water Table Present? Yes No ✓ Depth							
Saturation Present? Yes No _✓ Depth	,	Wetland Hydrology Prese	nt? Yes ✓ No				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspect	tions), if available:					
Remarks:							
Sparsely-vegetated depression created by	by cattle. Wastewa	ter drains from the	house into the				
depression.							

**VEGETATION** – Use scientific names of plants.

				Sampling Point: wasa080e_w
Tree Stratum (Plot size: 30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant Species Across All Strata: 0.0 (B)
4				Percent of Dominant Species
5 6				That Are OBL, FACW, or FAC: (A/B)
7				Prevalence Index worksheet:
··-		= Total Co		
Conding/Object Objections (Diet sings) 15!	0.0	= Total CC	)VEI	FACW species 0.0 x 2 = 0.0
Sapling/Shrub Stratum (Plot size:)				FAC species x 2 =
1				FACU species 4.0 x 4 = 16.0
2				UPL species x =
3				Column Totals: 4.0 (A) 16.0 (B)
4				Coldifil Totals. 4.0 (A) 10.0 (B)
5.				Prevalence Index = B/A = 4.0
				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Trifolium repens	2.0	N	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
•				✓ Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Dactylis glomerata</u>			<u>FACU</u>	7 Problematic Hydrophytic Vegetation (Explain)
3 4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10 11			·	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	nvor.	height.
Woody Vine Stratum (Plot size: 30')		= 10tai 00	7701	
1				
2.				
3				Hydrophytic Vegetation
				Present? Yes/ No
4	~ ~	= Total Co		

SOIL Sampling Point: wasa080e\_w

Profile Des	cription: (D	Describe 1	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	0-1/	Matrix	0/	0-1		x Features		12	Tantona	Description	
(inches)	Color (I		<u>%</u>	Color (n	10IST)	%	Type'	Loc <sup>2</sup>	Texture	<u>Remarks</u>	
0-6	10YR		100		- 12						
6-18	<u>5YR</u>	4/3	90	<u>7.5YR</u>	5/6	_10_	<u>C</u>	_M_	C	Prominent redox	
										<del></del>	
	-										
<sup>1</sup> Type: C=C			etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil				Dohara	lua Balay	v Curtoso	(CO) /I DI	D D		s for Problematic Hydric Soils <sup>3</sup> :	
Histosol Histic E	r (A r) pipedon (A2	?)		-	iue belov R <b>A 149B</b> )	w Surface	(56) ( <b>LK</b> I	χĸ,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )	
Black H	istic (A3)							LRA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A d Layers (A				-	/lineral (F1 Matrix (F2)		., L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
	d Below Da		e (A11)		ed Matrix		,		Thin Dark Surface (S9) (LRR K, L)		
	ark Surface					rface (F6)	-		Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Miner Gleyed Matri					Surface (F ions (F8)	7)		<ul><li>Piedmont Floodplain Soils (F19) (MLRA 149B)</li><li>Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</li></ul>		
-	Redox (S5)	(0 .)			2 ор. осо	.01.0 (1.0)				Parent Material (F21)	
	Matrix (S6)								Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
Dark St	ırface (S7) (	LKK K, IV	ILKA 149	<b>5</b> )					Other	(Explain in Remarks)	
		-		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	C.	
Restrictive	Layer (if ob	served):									
Type:									Hydric Soi	I Present? Yes No	
Remarks:	ches):								Tryunc 301	Triesent: Tes No	
Red clay	with re	dox be	low da	rk clav s	surface	e laver.					
						- 10.7					



wasa080e\_w\_N



wasa080e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL		
File #: wasa080	Date of visit(s): 09/14/2019		
Location: PLSS: 045N-004W-11	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.399518</u> Long: <u>-90.826645</u>	Watershed: LS12 Marengo River		
County: Ashland Town/City/Village: Marengo town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
481C, Cornucopia silt loam, 6 to 15 percent slopes Field Verified:	Wetland Type(s): PEM - Fresh Wet Meadow		
Series not verified. The soils consist of a clay texture.	Wetland Size: 0.07	Wetland Area Impacted 0.07	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The wetland is saturated and water likely pools during rain events. The hallow was created and disturbed by cattle traffic. Sewage drains from the adjacent house into the depression.	The depression is largely bare due to cattle trampling and haying, with invasive species present.		

 SITE MAP	

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	Ν	Ν	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N N	Occurs in a Joint Venture priority township
6			Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	
0			plans  Part of a large habitat block that supports area capaitive appaies
8	N	N N	Part of a large habitat block that supports area sensitive species
9	N	<u>Y</u>	Ephemeral pond with water present > 45 days
10	N	<u>Y</u>	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2		NIA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2			Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
-	Y	Y	
4	N	N N	Vegetated wetland associated with a lake or stream
5	N	<u>N</u>	Dense, persistent vegetation
6	N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y	<u>Y</u>	Stormwater or surface water from agricultural land is major hydrology source
8	N	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ζ	N	Springs, seeps or indicators of groundwater present
2	Ν	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	1.4	1.1	The second secon

Section 1 Comments (Refer to Section 1 numbers) ST-5: Wetland receives agricultural runoff from the surrounding hayed field. WH-9: The depression ponds during periods of high rainfall but likely provides limited habitat due to the low quality nature of the feature. ST-3: Vegetation is more dense at times of the year when cattle grazing and haying is less prominent Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Potential insect habitat Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Potential aquatic insect habitat

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

riant community integrity (on cro)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Trifolium repens			PEM	Rare
Trifolium repens Dactylis glomerata			PEM	Rare
-				

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Scattered and sparse herbaceous layer. Vegetation sparse due to cattle trampling. Floristic integrity is very low as a result.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
Х	Х		M	С	Agriculture – pasture
	Х		L	С	Roads or railroad
	Х			С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		M	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, , ,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Located in a hayed field used by cattle. The wetland is highly disturbed and largely bare.								

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Feature has low floristic integrity with minimal species diversity and high proportions of non-native species.
Human Use Values	No recreational or research opportunities. The feature is visible to nearby residential land use.
Wildlife Habitat	Small basin with sparse vegetation that provides little to no habitat.
Fish and Aquatic Life Habitat	The feature ponds occasionally but is overall small and of low quality.
Shoreline Protection	N/A
Flood and Stormwater Storage	Small and sparsely vegetated feature.
Water Quality Protection	Water quality potential is limited by the feature's vegetation density.
Groundwater Processes	The feature experiences recharge hydrology and shows minimal signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	_ Sampling Date: 2019-10-18
Investigator(s): ARK/NTT	Section, Townsh	ip, Range: <u>045N-004W-</u>	02
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Cornucopia silt Ioan			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation ✓, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
			,
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sa	mpled Area	
	No ✓ within a \	Wetland? Yes	No <u> √</u>
		ional Wetland Site ID:	
Remarks: (Explain alternative procedures here of			
Upland point is located in a heavil	ly grazed callie pasitire.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; cl	heck all that apply)	Surface Soi	il Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	Aquatic Fauna (B13)	Moss Trim I	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		Visible on Aerial Imagery (C9)
1 <del></del>	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>	Soils (C6) Geomorphic Shallow Aq	c Position (D2)
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Kemarks)		al Test (D5)
Field Observations:		1710 1100110	1 1001 (20)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):		ent? Yes No✓_
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorion)		ational if available.	
Describe Recorded Data (stream gauge, monitorii	ng well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No wetland hydrology indicators v	vere observed.		

**VEGETATION** – Use scientific names of plants.

	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC: 0.0 (A)
2		ī		Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species
5		-		That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
	0.0			OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:15')				FACW species 0.0 x 2 = 0.0
				FAC species 2.0 x 3 = 6.0
1				FACU species <u>65.0</u> x 4 = <u>260.0</u>
2				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals: <u>67.0</u> (A) <u>266.0</u> (B)
4				Prevalence Index = B/A = 4.0
5		-		
6			· ——	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )			E4011	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Poa pratensis</u>		<u>Y</u>	FACU	data in Remarks or on a separate sheet)
2. <u>Trifolium repens</u>		<u> </u>	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Dactylis glomerata</u>		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Juncus tenuis</u>	2.0	N	<u>FAC</u>	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8		ī-		Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.	67.0	– Total Co	vor	height.
Woody Vine Stratum (Plot size:30')	01.0	= Total Co	vei	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No ✓
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Vegetation heavily grazed.	sheet.)			
vegetation neavily grazed.				

Sampling Point: wasa080\_u

SOIL Sampling Point: wasa080\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indica	ators.)
Depth	Matrix	0/		x Features	-	1 2	Tautura	Remarks
(inches) 0-4	Color (moist) 10YR 3/3	100	Color (moist)	%	Type'	Loc <sup>2</sup>	SICL	Remarks
4-18							CI CI	
<del></del>	7.011C <del>4</del> /0	100		· <del></del>			<u> </u>	
		-						
		·						
		<del></del> .						
				. ———				
		·						
				·				
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		re Lining, M=Matrix.
Hydric Soil			Daharaha Bala	C	(CO) /I DI	. D		lematic Hydric Soils <sup>3</sup> :
Histoso Histic E	pipedon (A2)		Polyvalue Belov MLRA 149B)		(58) (LRI	κк,		)) ( <b>LRR K, L, MLRA 149B</b> ) edox (A16) ( <b>LRR K, L, R</b> )
Black H	istic (A3)	,	Thin Dark Surfa					at or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)	Dark Surface (S Polyvalue Below	7) (LRR K, L) v Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)			Thin Dark Surfa	ce (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S				_	e Masses (F12) (LRR K, L, R) plain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		')			A6) (MLRA 144A, 145, 149B)
-	Redox (S5)						Red Parent Mat	
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149B	)				Other (Explain in	ark Surface (TF12) n Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil Present?	? Yes No <u>√</u>
Remarks:								
No hydri	c soil indicator	s obser	ved.					



wasa080\_u\_E



wasa080\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl	and	Sampling Date: 2019-10-18		
Applicant/Owner: Enbridge					
Investigator(s): ARK/NTT	Section, Township, I	Range: <u>045N-004W-(</u>	02		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.4					
Soil Map Unit Name: Cornucopia silt loam, 6 to 1					
Are climatic / hydrologic conditions on the site typical for this tin	•				
	•				
Are Vegetation, Soil, or Hydrology sign					
Are Vegetation, Soil, or Hydrology natu					
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	t locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes✓ No _	Is the Sampl	led Area			
Hydric Soil Present? Yes ✓ No	within a Mat	tland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓ No _		al Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separa	ate report.)				
The wetland is a small depression located	•	ale that runs down	hill into another		
wetland feature outside of the current sur	vey boundaries.				
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that	t apply)	Surface Soil	Cracks (B6)		
Surface Water (A1) Water-	Stained Leaves (B9)	Drainage Pa	itterns (B10)		
High Water Table (A2) Aquatic	c Fauna (B13)	Moss Trim L	ines (B16)		
Saturation (A3) Marl De	eposits (B15)	Dry-Season	Dry-Season Water Table (C2)		
	gen Sulfide Odor (C1)	Crayfish Bur			
	ed Rhizospheres on Living Ro		isible on Aerial Imagery (C9)		
	nce of Reduced Iron (C4)		tressed Plants (D1)		
	t Iron Reduction in Tilled Soils				
	uck Surface (C7)	Shallow Aqu			
	(Explain in Remarks)	Microtopogra			
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutral	Test (D5)		
Surface Water Present? Yes No _✓ Depth	(inches):				
Water Table Present? Yes No ✓ Depth					
Saturation Present? Yes No ✓ Depth		Wetland Hydrology Preser	nt? Yes <u>√</u> No		
(includes capillary fringe)	· · · ·		II: 163 <u>v</u> 110		
Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspection	ons), if available:			
Remarks:					
Wetland hydrology was determined base	d on geomorphic po	osition and domina	int vegetation.		

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute		Indicator	Dominance Test worksheet:
		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 3 (B)
3				Species Across All Strata (b)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)
5				That Ale OBE, I AOW, OF AC
6				Prevalence Index worksheet:
7			·	Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>55</u> x 1 = <u>55</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species0 x 2 =0
1				FACULT PRODUCTION
2				FACU species x 4 = 80 UPL species 0 x 5 = 0
3				Column Totals: 77 (A) 141 (B)
4.				(1) <u>141</u> (5)
5				Prevalence Index = B/A =1.83
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				y 3 - Prevalence Index is ≤3.0¹    3 - Prevalence Index is ≤3.0¹   4 - Prevalence Index is ≤3.0²   5 - Prevalence In
1. <u>Scirpus hattorianus</u>	30.0	<u>Y</u>	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Juncus effusus	25.0	Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Dactylis glomerata</u>	20.0	Υ	FACU	
4. Echinochloa crus-galli			FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10			·	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12				height.
001		= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2	<del>-</del>			
3				Hydrophytic
4			·	Vegetation Present? Yes No
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on a separate see The vegetation is in a hayed field and continuous transfer or on the vegetation of the vegetation is a separate see The vegetation of the vegeta		ad by a	raminaia	de
The vegetation is in a hayed held and c	ommate	su by gi	ammoic	15.

Sampling Point: wasa081e\_w

SOIL Sampling Point: wasa081e\_w

	cription: (D	escribe	to the dep	oth needed				or confirm	the absence	of indicators.)	
Depth (inches)	Color (r	Matrix noist)	%	Color (n		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-6	7.5YR	-	100						CI		
	5YR			7.5YR	5/6	10	C	M	C	Prominent redox	
	<u> </u>	7/0		7.011K	5/0					1 TOTHINGTIC TODOX	
			· <del></del>								
									-		
			·			·					
						-					
¹Type: C=Ce	oncentration	ı, D=Dep	letion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:									for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1) pipedon (A2)	)			llue Belov RA 149B)	w Surface	(S8) ( <b>LRI</b>	RR,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )	
	stic (A3)	,			,		RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A				-	Motrix (F1		, L)	Dark Surface (S7) (LRR K, L)		
	d Layers (A5 d Below Dar		e (A11)		ed Matrix	Matrix (F2) (F3)			Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)		
Thick Da	ark Surface	(A12)	` ,	Redox	Dark Su	rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
	Mucky Minera Bleyed Matri					Surface (Fi ions (F8)	7)		Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)	X (U4)		Redux	Depiess	10113 (1 0)			✓ Red Parent Material (F21)		
	Matrix (S6)								Very Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (I	LRR R, N	ILRA 149	<b>B</b> )					Other	(Explain in Remarks)	
		_		etland hydro	logy mus	st be prese	nt, unles	s disturbed o	or problemation	c.	
Restrictive I	Layer (if ob	served):									
Type:									Hydric Soil	Present? Yes No	
Depth (inc	ches):								Hydric 30ii	rresent: res v No	
Soil mee	ts Red F	Parent	Mater	ial hydri	c soil i	ndicato	r.				



wasa081e\_w\_N



wasa081e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL/ARI	<	
File #: wasa081	Date of visit(s): 09/14/2019		
Location: PLSS: 045N-004W-02	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.400252</u> Long: <u>-90.825607</u>	Watershed: LS12 Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Marengo town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
481C, Cornucopia silt loam, 6 to 15 percent slopes Field Verified:	Wetland Type(s): PEM - Fresh Wet Meadow		
Series not verified. The soils consist of a clay loam over a clay texture.	Wetland Size: 0.02	Wetland Area Impacted 0.02	
•	Vegetation: Plant Community D	Description(s):	
Hydrology: The wetland receives water from surrounding pasture and primarily experiences recharge hydrology. Water potentially pools in a select portion of the depression where common rush cover is dense.	The wetland feature is dominated by hydrophytic graminoids with scattered invasive species cover.		

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

1 N N Used for recreation (hunting, birding, hiking, etc.). List: 2 N N Usually or physically accessible to public 4 N N N Suspin or physically accessible to public 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to RED FLAG areas 1 N N Supports or provides habitat for endangered, threatened or special concern species 1 N N Supports or provides habitat for endangered, threatened or special concern species 1 N N Supports or provides habitat for endangered, threatened or special concern species 1 N N Wildlife Habitat 1 N N Wildlife Habitat 1 N N Wildlife Habitat 2 N N N Within or adjacent to radioacous habitat ±10 acres 3 N N Within or adjacent to radioacous habitat ±10 acres 3 N N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority formaship. 6 N N Interspersion of habitat structure themi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N y plans 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aqualitic invertebrates 11 N N Seasonally exposed muldifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aqualic invertebrates 1 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is invadered in spring 5 Shorteline Protection 1 N N Seasonally exposed for the spring that the spring that the spring that the spring that			ECTION 1:	Functional Value Assessment
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A   N   Aesthetically pleasing due to diversity of habitat types, tack of pollution or degradation	3	N	N	
S N N	4			
S		.,	- 11	
Fig.   Fig.   Fish and Aquatic Life Habitat for amphibians and aquatic invertebrates	5	N	N	
The continuation of the	6	NI	N	
Wildlife Habitat   N		IN	IN	
1				
2	h +	N.I.	N.I.	
3 N N N Office of a policy of the provided by the provided				
4 N N Occurs in a Joint Venture priority township				
5	-			
Fig.   Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex.etc.)				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			
N	6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species  9 N Y Ephemeral pond with water present ≥ 45 days  10 N Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed muditats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 N N Wetland is connected or contiguous with perennial stream or lake  2 N Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  SP Shoreline Protection  1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  7 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  8 NA NA Densely rooted emergent or woody vegetation  Storm and Floodwater Storage  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Water flow through wetland is NOT channelized  3 Y Y Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 Y Y Point or non-point source inflow  6 N N Impervious surfaces cover > 10% of land surface within the watershed  8 N N Provides substantial storage of storm and floodwater based on previous section  1 N N Provides substantial storage of storm and floodwater based on previous section  2 Y Y Basin wetland or constricted outlet  3 Y Y Dense, persistent vegetation  6 N N Provides substantial storage of storm and floodwater based on previous section  9 Y Y Basin wetland or constricted outlet  1 N N Provides substantial storage of storm and floodwater based on previous section  1 N N Provides substantial storage of storm and floodwater based on previous section  8 N N Discharge to surface water from agricultural land is major hydrology source  9 Y Y Dense, persistent vegetation  1 N N Signs of excess nutrients, such as algae bloo	7	N		
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		at and Species Observation (including amphibians and reptiles)
	nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Obscived	Y	Potential songbird and insect habitat.
		1 otomai oongona ana moosi nabian
Fis	sh and Agua	atic Life Habitat and Species Observations
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	T	
Observed	Potential	Species/Habitat
	Y	Potential aquatic invertebrate and amphibian habitat during periods of standing water.
	1	

Section 1 Comments (Refer to Section 1 numbers)

ST-5: Wetland receives agricultural runoff from adjacent cattle enclosure. WH-9, 10: The depression likely holds standing water for portions of the year. WQ-1: The feature is of very small physical size.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50% 🗸	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus hattorianus			PEM	Common
Juncus effusus			PEM	Common
Dactylis glomerata			PEM	Common
Echinochloa crus-galli			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is very low due to low species diversity, cattle disturbance, and the presence of invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
	Х		М	С	Point source or stormwater discharge		
	Х		L	С	Polluted runoff		
					Pond construction		
	Х		L	С	Agriculture – row crops		
Χ	Х		М	С	Agriculture – hay		
Χ	Х		М	С	Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
.,	.,				Removal of herbaceous stratum – mowing,		
X	X		M	С	grading, earthworms, etc.		
					Removal of tree or shrub strata – logging,		
					unprescribed fire		
			İ		Human trails – unpaved		
					Human trails – paved		
	Х		L	С	Removal of large woody debris		
Х	Х		L	С	Cover of non-native and/or invasive species		
	Х		L	С	Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located in a field used by cattle. The wetland is disturbed by surrounding land use and contains
non-native cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity	<b>√</b>									
Human Use Values	<b>√</b>									
Wildlife Habitat	<b>√</b>									
Fish and Aquatic Life Habitat	<b>√</b>									
Shoreline Protection					<b>1</b>					
Flood and Stormwater Storage	<b>√</b>									
Water Quality Protection	<b>√</b>									
Groundwater Processes	<b>√</b>									

FUNCTION	RATIONALE
Floristic Integrity	Species diversity is low, with invasive species cover.
Human Use Values	No recreational or research opportunities. The feature is visible to nearby residential land use.
Wildlife Habitat	Provides habitat for select species that occupy disturbed non-continuous habitat.
Fish and Aquatic Life Habitat	The feature ponds occasionally but is overall small and of low quality.
Shoreline Protection	N/A
Flood and Stormwater Storage	Small and moderately vegetated feature not directly connected to surface water.
Water Quality Protection	The wetland is not directly connected surface water or a water body and likely does not provide substantial storage of flood water.
Groundwater Processes	The feature experiences recharge hydrology and shows minimal signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	ıland	Sampling Date: 2019-10-18			
•						
Investigator(s): ARK/NTT	, Range: <u>045N-004W-0</u>	02				
		Local relief (concave, convex, none): Convex Slop				
Subregion (LRR or MLRA): Northcentral Forests La						
Soil Map Unit Name: Cornucopia silt loam,						
Are climatic / hydrologic conditions on the site typical						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam					
Hydric Soil Present? Yes	No✓ within a W	etland? Yes	No <u></u>			
		nal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in Slight rise in a hay field, but relative		eturo araccos				
Slight rise in a riay field, but relative	ery nat. Dominated by pa	Stute grasses.				
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)			
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil	Cracks (B6)			
	_ Water-Stained Leaves (B9)	Drainage Patterns (B10)				
	_ Aquatic Fauna (B13)	Moss Trim Lines (B16)				
	_ Marl Deposits (B15)	Dry-Season Water Table (C2)				
	_ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living		isible on Aerial Imagery (C9)			
	<ul><li>Presence of Reduced Iron (C4)</li><li>Recent Iron Reduction in Tilled So</li></ul>		Stressed Plants (D1)			
	Thin Muck Surface (C7)	d Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
	_ Other (Explain in Remarks)	<del></del>				
Sparsely Vegetated Concave Surface (B8)	_ curer (Explain in Remarks)	FAC-Neutral	. , ,			
Field Observations:						
Surface Water Present? Yes No ✓	Depth (inches):					
	Depth (inches):					
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>			
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	well porial photos, provious inspace	tions) if available:				
Describe Recorded Data (Stream gauge, monitoring	well, aeriai priotos, previous ilispec	ioris), ii avaliable.				
Remarks:	are observed					
No wetland hydrology indicators we	ere observed.					

**VEGETATION** – Use scientific names of plants.

T. O (D	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)			<u>Status</u>	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4			<del> </del>	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species10 x 3 =30
2.				FACU species <u>92</u> x 4 = <u>368</u>
3				UPL species0 x 5 =0
				Column Totals:(A)(B)
4				Prevalence Index = B/A = 3.90
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
-1	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Poa pratensis	50	V	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Trifolium pratense</u>			FACU	Problematic Hydrophytic Vegetation¹ (Explain)
			FACU	residinate riyarophytic regulation (Explain)
3. <u>Dactylis glomerata</u>		N		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Ranunculus acris	_	_N_	FAC	be present, unless disturbed or problematic.
5. <u>Lotus corniculatus</u>		N	FACU	Definitions of Vegetation Strata:
6. <u>Achillea millefolium</u>	2	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7			·	at breast height (DBH), regardless of height.
8	_	-	<del> </del>	Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	102	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2.				
3				Hydrophytic
4				Vegetation
		= Total Co		Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate		_ 10tal 00		
Vegetation has been recently hayed.	ooo,			

Sampling Point: wasa081\_u

SOIL Sampling Point: wasa081\_u

Profile Desc	ription: (	Describe t	to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence of	f indicators.)
Depth (in all as)	Calar (	Matrix	0/		x Features	4	1 2	T	Demonto
(inches)	Color (		<u>%</u>	Color (moist)	%	Type'	_Loc <sup>2</sup>	Texture	Remarks
_0-18_	<u>5YR</u>	5/4	100					<u> </u>	
					·	-			
					·				
					. ———				
			etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil		:		Dobarduo Bolo	Curtooo	(CO) (LDI	. D		or Problematic Hydric Soils <sup>3</sup> :
Histosol Histic Er	(AT) pipedon (A2	2)		Polyvalue Belov MLRA 149B)		(36) (LKI	κκ,		uck (A10) ( <b>LRR K, L, MLRA 149B</b> ) rairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi		-,		Thin Dark Surfa		RR R, MI	RA 149B)		ucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A			Loamy Mucky N			, <b>L</b> )		rface (S7) (LRR K, L)
	d Layers (A d Below Da		\( ( \ 1 1 \)	Loamy Gleyed I Depleted Matrix		2)			ue Below Surface (S8) ( <b>LRR K, L</b> ) rk Surface (S9) ( <b>LRR K, L</b> )
	ark Surface		# (A11)	Redox Dark Su					nganese Masses (F12) ( <b>LRR K, L, R</b> )
	lucky Mine			Depleted Dark S					nt Floodplain Soils (F19) (MLRA 149B)
_	Sleyed Matr	ix (S4)		Redox Depress	ions (F8)				podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
_	ledox (S5)								rent Material (F21)
	Matrix (S6 rface (S7) (		II D A 1/0E	2)					allow Dark Surface (TF12) Explain in Remarks)
Daik Sui	nace (Sr) (	LKK K, W	ILNA 1490	•)				Other (L	Apiairi iri Nemarks)
		-	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive I	_ayer (if ob	oserved):							
Type:				<del></del>					
Depth (inc	ches):							Hydric Soil F	Present? Yes No/
Remarks:	o ooil in	dicator	o oboo	nuod					
No hydrid	5 5011 1111	uicatoi	s obse	veu.					



wasa081\_u\_N



wasa081\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Co	ounty: <u>Ashland</u>		Sampling Date: <u>2019-10-07</u>		
Applicant/Owner: Enbridge						
Investigator(s): NTT/SAM	Sectio	n, Township, Range: 04	5N-004W-1	1		
Landform (hillslope, terrace, etc.): Depression						
Subregion (LRR or MLRA): Northcentral Forests La						
Soil Map Unit Name: Portwing-Herbster co						
Are climatic / hydrologic conditions on the site typical		•				
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology			cplain any answer			
SUMMARY OF FINDINGS – Attach site i	map showing sam	pling point location	ıs, transects,	, important features, etc.		
Hydrophytic Vegetation Present? Yes✓	No	Is the Sampled Area				
Hydric Soil Present? Yes✓	No	within a Wetland?	Yes <u>√</u>	No		
Wetland Hydrology Present? Yes✓		If yes, optional Wetland	Site ID:			
Remarks: (Explain alternative procedures here or in Small graminoid-dominated depres		urrounded by ha	v fields			
Small grammold-dominated depres	Sioriai Wellariu S	dirounded by na	y ileius.			
HYDROLOGY						
Wetland Hydrology Indicators:		<u> </u>	Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is required; che	ck all that apply)		Surface Soil (	Cracks (B6)		
	_ Water-Stained Leaves	s (B9)	Drainage Patterns (B10)			
	_ Aquatic Fauna (B13)	-	Moss Trim Lines (B16)			
	_ Marl Deposits (B15)	-	Dry-Season Water Table (C2)			
	_ Hydrogen Sulfide Odo		Crayfish Burn			
	Oxidized Rhizosphere	-		sible on Aerial Imagery (C9)		
1 <del>-</del>	Presence of Reduced Recent Iron Reduction	• • •		ressed Plants (D1)		
	Thin Muck Surface (C		Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)			
	Other (Explain in Rem		Shallow Aquitard (D3) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Rein		Microtopogra _∠ FAC-Neutral			
Field Observations:		<u>-</u>				
Surface Water Present? Yes No ✓	Depth (inches):					
	Depth (inches):					
	Depth (inches): 0		/drology Presen	t? Yes _ ✓ No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	weii, aeriai pnotos, prev	lious inspections), if available	able:			
Remarks:	241 1	1 1 1				
Located within a depression. Featu	re with recharge	hydrology.				

**VEGETATION** – Use scientific names of plants.

			Sampling Point: wasa082e_w
Absolute % Cover		t Indicator	Dominance Test worksheet:
76 COVEL	-		Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
			Total Number of Dominant Species Across All Strata: 2.0 (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 100.0 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
0.0	= Total Co	ver	OBL species 70.0 x 1 = 70.0
			FACW species 40.0 x 2 = 80.0
			FACUlaracias 0.0 x 3 = 0.0
			FACU species 0.0 x 4 = 0.0
			UPL species $0.0   x = 0.0$ Column Totals: $110.0   (A)   150.0   (B)$
			Coldifii Totals. 110.0 (A) 130.0 (B)
			Prevalence Index = B/A =1_4
			Hydrophytic Vegetation Indicators:
			∠ 2 - Dominance Test is >50%
0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
50.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
	Υ		Problematic Hydrophytic Vegetation¹ (Explain)
	N		
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			<b>Woody vines</b> – All woody vines greater than 3.28 ft in
110.0 =	= Total Co	ver	height.
		<u> </u>	
			Hydrophytic
			Vegetation   Present?
0.0 =	- Total Co	vor	100

SOIL Sampling Point: wasa082e\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth (in all a a)	Matrix	0/	Color (m		x Features		1.5.2	Ta	Demonto
(inches)	Color (moist) 10YR 2/1	100	Color (m	ioist)	%	Type'	Loc <sup>2</sup>	Texture MMI	Remarks
3-8	10YR 2/1	100						C	
			7 5YR	5/6	10		M	SC	Prominent redox
8-18 10YR 5/1 90 7.5YR 5/6 10 C M SC Prominent redox  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Redox Dark Surface (F6)  Prominent redox   Loamy Gleye Matrix, MS=Masked Sand Grains.  Loamy Masked Sand Grains.  Loamy Gleyed Matrix, MS=Masked Sand Grains.  Loamy Masked Sand Grains.  Loamy Gleyed Sand Grains.  Loamy Gleyed Matrix (F3)  Depleted Matrix (F3)  Redox Dark Surface (F6)  PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (LRR K, L, MLRA 149B)  Coast Prairie Redox (A16) (LRR K, L, R)  Dark Surface (S7) (LRR K, L)  Dark Surface (S7) (LRR K, L)  Thin Dark Surface (S8) (LRR K, L)  Thin Dark Surface (S8) (LRR K, L)  Iron-Manganese Masses (F12) (LRR K, L)							n: PL=Pore Lining, M=Matrix. For Problematic Hydric Soils <sup>3</sup> : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Falue Below Surface (S8) (LRR K, L) Fark Surface (S9) (LRR K, L) Fanganese Masses (F12) (LRR K, L, R) Font Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Farent Material (F21) Shallow Dark Surface (TF12)		
	Layer (if observed):								
Туре:								Hardela Oall	I Brossari (O. Vos. (C. No.
Depth (ir Remarks:	iches):		,					Hydric Soil	Present? Yes No
	vo hydric soil ir	ndicato	rs.						



wasa082e\_w\_N



wasa082e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name:	Evaluator(s):				
Line 5 Relocation Project	MAL/NTT/DGL/ARK	(/SAM			
File #:	Date of visit(s):				
wasa082	09/14/2019				
Location:	Ecological Landsca	ape:			
PLSS: <u>045N-004W-11</u>	Superior Coastal Plain				
	Superior Coastai i iairi				
Lat: <u>46.399586</u> Long: <u>-90.82414</u>	Watershed:				
	LS12 Marengo River				
County: Ashland Town/City/Village: Marengo town					
SITE DESCRIPTION					
Soils:	WWI Class:				
Mapped Type(s):	N/A				
480B, Portwing-Herbster complex, 0 to 6 percent slopes	Wetland Type(s):				
	PEM - Shallow Marsh				
Field Verified:					
Series not verified. The soils consist of a modified	Wetland Size:	Wetland Area Impacted			
mucky mineral over a clay over a sandy clay.	0.04	0.04			
machy minoral ever a clay ever a carray clay.	Vegetation:	I			
	Plant Community Description(s):				
Hydrology:	The shallow marsh features a community of				
The wetland receives water from surrounding	*				
pasture and is located within a depression with	hydrophytic vegetation dominated by				
•	woolgrass and devil's beggarticks.				
saturation present at the surface.					

# SITE MAP

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	Ν	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11		In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover >50%(south) 75% (north) intact
5		N	Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	Υ	Υ	Ephemeral pond with water present > 45 days
10	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	Y	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	Ν	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP	-	-	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	14/ (	14/1	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	S S S S S S S S S S S S S S S S S S S
4			Lianca narcistant vagatation
5		_	Dense, persistent vegetation
1 ()	N	N	Evidence of flashy hydrology
-	Υ	N Y	Evidence of flashy hydrology Point or non-point source inflow
6	Y N	N Y N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
6 7	Y N N	N Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
6 7 8	Y N	N Y N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
6 7 8 WQ	Y N N	N Y N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
6 7 8 WQ 1	Y N N N	N Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
6 7 8 WQ 1 2	Y N N N	N Y N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
6 7 8 WQ 1 2 3	Y N N N N Y	N Y N N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized
6 7 8 WQ 1 2 3 4	Y N N N Y Y	N Y N N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
6 7 8 WQ 1 2 3 4 5	Y N N N Y Y Y N Y	N Y N N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
6 7 8 WQ 1 2 3 4 5 6	Y N N N Y Y N N N N N N N N N N N N N N	N Y N N N Y Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
6 7 8 WQ 1 2 3 4 5 6 7	Y N N N Y Y Y N Y	N Y N N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
6 7 8 WQ 1 2 3 4 5 6	Y N N N Y Y N N N N N N N N N N N N N N	N Y N N N Y Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 WQ 1 2 3 4 5 6 7	Y N N N Y Y N N Y Y Y N Y Y	N Y N N N Y Y Y N N Y Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
6 7 8 WQ 1 2 3 4 5 6 7	Y N N N N Y Y N N Y N N N N N N N N N N	N Y N N N Y Y Y N Y	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y N N N Y Y N Y N N N N N N N N N N N N	N Y N N N N Y Y N Y N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	Y	N Y N N N Y Y N N N N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes  Springs, seeps or indicators of groundwater present
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	Y	N Y N N N Y Y N N N N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2 3	Y N N N N Y Y N N N N N N N N N N N N N	N Y N N N Y Y N N N N N N N N N N N N N	Evidence of flashy hydrology  Point or non-point source inflow  Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with <10% wetland  Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event  Water Quality Protection  Provides substantial storage of storm and floodwater based on previous section  Basin wetland or constricted outlet  Water flow through wetland is NOT channelized  Vegetated wetland associated with a lake or stream  Dense, persistent vegetation  Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  Stormwater or surface water from agricultural land is major hydrology source  Discharge to surface water  Natural land cover in 100m buffer area < 50%  Groundwater Processes  Springs, seeps or indicators of groundwater present  Location near a groundwater divide or a headwater wetland  Wetland remains saturated for an extended time period with no additional water inputs
6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	Y	N Y N N N Y Y N N N N N N N N N N N N N	Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

ST-5: Wetland receives agricultural runoff from adjacent cattle enclosure. WH-9, 10: The depression likely holds standing water for portions of the year. WQ-1: The feature is of small physical size.					
Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.					
Observed	Potential	Species/Habitat/Comments			
	Υ	Potential insect, small mammal, songbird, and amphibian habitat.			
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		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.			
01	D. C. C.	0			
Observed	Potential	Species/Habitat			
	Υ	Periodic standing water may provide habitat for amphibians and aquatic insects.			
1	<del> </del>				
	1				
	<del>                                     </del>				
	1				
	1				

Section 1 Comments (Refer to Section 1 numbers)

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Abundant
Bidens frondosa			PEM	Common
Agrostis gigantea			PEM	Common
Calamagrostis canadensis			PEM	Common
Persicaria hydropiper			PEM	Uncommon
Typha X glauca			PEM	Uncommon
	_			

#### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Species diversity is low, and the plant community is filled with disturbance-favoring species. Troublesome invasive species are present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
	Х		L	С	Agriculture – row crops
					Agriculture – hay
X	Х		M	С	Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Χ	Х		Н	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The depressional marsh is flanked by upland pasture and has considerable non-native species cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity	<b>√</b>		_							
Human Use Values	<b>√</b>									
Wildlife Habitat	<b>√</b>									
Fish and Aquatic Life Habitat	<b>√</b>									
Shoreline Protection					<b>√</b>					
Flood and Stormwater Storage	<b>√</b>									
Water Quality Protection	<b>√</b>									
Groundwater Processes	<b>√</b>									

FUNCTION	RATIONALE
Floristic Integrity	Troublesome invasive species are present, and the wetland has low diversity.
Human Use Values	No recreational or research opportunities. The feature is visible to nearby residential land use.
Wildlife Habitat	Small basin that provides habitat for select species which occupy disturbed non-continuous habitat.
Fish and Aquatic Life Habitat	The feature likely routinely contains standing water based on the plant community and topography.
Shoreline Protection	N/A
Flood and Stormwater Storage	Small and moderately vegetated feature not directly connected to surface water.
Water Quality Protection	The wetland is not directly connected surface water or a waterbody, and likely does not provide substantial storage of flood water.
Groundwater Processes	The feature experiences recharge hydrology and shows minimal signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-07
Applicant/Owner: Enbridge			
Investigator(s): NTT/SAM			
Landform (hillslope, terrace, etc.): Talf		_	
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Portwing-Herbster of			
Are climatic / hydrologic conditions on the site typic	• •	•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
			,
SUMMARY OF FINDINGS – Attach site	e map showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	pled Area	
	No ✓ within a W	etland? Yes	No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here o	r in a separate report.)		
Sample recorded in a hay field th	at was flayed receility.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; of	heck all that apply)	Surface Soil	l Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
1 — · · · · ·	Presence of Reduced Iron (C4)	<del></del>	Stressed Plants (D1)
	Recent Iron Reduction in Tilled So		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	· -	raphic Relief (D4) al Test (D5)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	ii Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous inspec	tions), if available:	
Remarks:			
No wetland primary or secondary	indicators of wetland hyd	rology were observe	ed.

Tree Obstance (Distriction 20)	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')			<u>Status</u>	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: 2.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A/B)
5				That Ale ODE, I ACW, OF I AC.
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 =0.0
1				FAC species 0.0 x 3 = 0.0 FACU species 45.0 x 4 = 180.0
2				UPL species $\frac{45.0}{50.0}$ x 5 = $\frac{250.0}{50.0}$
3				Column Totals: 95.0 (A) 430.0 (B)
4				
5				Prevalence Index = B/A = 4.5
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Bromus inermis	50.0	Y	UPL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Trifolium pratense	25.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Phleum pratense</u>		N	FACU	1
4. <u>Plantago major</u>		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Trifolium repens</u>		N	FACU	
6				Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			-	Herb – All herbaceous (non-woody) plants, regardless
11			-	of size, and woody plants less than 3.28 ft tall.
12			· ——	Woody vines – All woody vines greater than 3.28 ft in
12.	05.0	= Total Co		height.
Manda Vina Chartum (Blataina 201	95.0	= 10(a) C0	vei	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No ✓
December (leglade whete growth are horse as a consiste		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Hay field of pasture grasses and clover				
The state of the s	•			

Sampling Point: wasa082\_u

SOIL Sampling Point: wasa082\_u

			to the dep				or confirm	the absence of indicators.)	
Depth (inches)	Color (ı	Matrix moist)	%	Color (moist)	<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-6	7.5YR		100					C	
6-18			100						
	-		· <del></del>						
	-								
-	-								
			letion, RM	=Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Histosol				Polyvalue Belov	v Surface	(S8) (I RE	R.	Indicators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) (LRR K, L, MLRA 14	
	pipedon (A2	2)		MLRA 149B)		(00) (=111	,	Coast Prairie Redox (A16) (LRR K, L,	
	istic (A3) en Sulfide ( <i>A</i>	(4)		Thin Dark Surfa Loamy Mucky M				<ul><li>5 cm Mucky Peat or Peat (S3) (LRR K</li><li>Dark Surface (S7) (LRR K, L)</li></ul>	(, L, R)
	d Layers (A			Loamy Gleyed I			, <b>L</b> )	Polyvalue Below Surface (S8) (LRR K	, L)
	d Below Da		e (A11)	Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)	
	ark Surface ⁄lucky Miner			Redox Dark Sui Depleted Dark S		7)		<ul><li>Iron-Manganese Masses (F12) (LRR M</li><li>Piedmont Floodplain Soils (F19) (MLR</li></ul>	
Sandy C	Sleyed Matri			Redox Depress		- /		Mesic Spodic (TA6) (MLRA 144A, 145	
	Redox (S5) I Matrix (S6)	١						<ul><li>Red Parent Material (F21)</li><li>Very Shallow Dark Surface (TF12)</li></ul>	
	rface (S7) (		ILRA 1491	3)				Other (Explain in Remarks)	
<sup>3</sup> Indicators o	f hydrophyti	c vegetat	ion and we	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if ob	served):							
Type:								Hydria Sail Brasant? Vac No.	,
	ches):							Hydric Soil Present? Yes No	
Remarks: No hydri	c soil ind	dicato	s obse	rved.					
			0.000						



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wasa082\_u\_S

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-07	
Applicant/Owner: Enbridge				
Investigator(s): NTT/SAM	Section, Township	, Range: <u>045N-004W-</u>	11	
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.39				
Soil Map Unit Name: <u>Udorthents</u> , ravines and escarpr				
Are climatic / hydrologic conditions on the site typical for this time	•	•		
	-			
Are Vegetation, Soil, or Hydrology signifi				
Are Vegetation, Soil, or Hydrology natura				
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poi	nt locations, transects	s, important features, etc.	
Hydrophytic Vegetation Present? Yes✓ No	Is the Sam			
Hydric Soil Present? Yes _ ✓ No	within a Wo	etland? Yes <u>√</u>	No	
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a separate		o hardwood swamn	iust a simpla	
Small depressional wetland basin with tree depression. Sample point was revisited to		•	o, just a simple	
depression. Sample point was revisited to	Collect Solls data			
HYDROLOGY				
Wetland Hydrology Indicators:			ators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that a		Surface Soi		
	ained Leaves (B9)	Drainage Patterns (B10)		
High Water Table (A2) Aquatic F		Moss Trim Lines (B16)		
Saturation (A3) Marl Dep		Dry-Season Water Table (C2)		
	n Sulfide Odor (C1)	Crayfish Bu		
	Rhizospheres on Living I		/isible on Aerial Imagery (C9)	
	e of Reduced Iron (C4) on Reduction in Tilled So		Stressed Plants (D1)	
	k Surface (C7)	ins (CO) <u>→</u> Geomorphic — Shallow Aqu		
	kplain in Remarks)		aphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)	tpraint in tromainte)	FAC-Neutra		
Field Observations:		<u></u>		
Surface Water Present? Yes No ✓ _ Depth (ii	nches):			
Water Table Present? Yes No _ ✓ Depth (ii	nches):			
Saturation Present? Yes No ✓ Depth (iii	nches):	Wetland Hydrology Prese	nt? Yes <u>√</u> No	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial	I nhotos previous inspect	tions) if available:		
2000/100 Processes Data (officially gauge, monitoring won, dental	priotos, proviodo inoposi	nono), ii avanabio.		
Remarks: Located within a depression at the base of	a stoon hillside	Water likely nools k	nere briefly in the	
spring and maintains saturation for a portion	•	• •	lete bliefly in the	
	on or the growing	36a3011.		

<b>VEGETATION</b> – Use scientific names of plants.				Sampling Point: wasa084f_w
Tree Stratum (Plot size:)	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	40.0	Y	<b>FACW</b>	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. <u>Populus tremuloides</u>	20.0	Y	FAC	Total Number of Dominant
3				Species Across All Strata:6(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Co	ver	OBL species25 x 1 =25
Sapling/Shrub Stratum (Plot size: 15')				FACW species65 x 2 =130
1. <u>Fraxinus nigra</u>	10.0	<u>Y</u>	<u>FACW</u>	FAC species x 3 = 90 FACU species x 4 = 0
2				UPL species
3				Column Totals: 120 (A) 245 (B)
4				2.4
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%
	10	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Glyceria striata			OBL	data in Remarks or on a separate sheet)
2. <u>Symphyotrichum lateriflorum</u>			<u>FAC</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Fraxinus nigra</u>			<u>FACW</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Rubus pubescens				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8		-		Sapling/shrub – Woody plants less than 3 in. DBH
	·	-		and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
West-Miss Obstance (Blateine 20)	50	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4		= Total Co		Present? Yes No
Remarks: (Include photo numbers here or on a separate s		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s American elm snags with black ash and striata and black ash seedlings/saplings	aspen	in the c	anopy.	Ground layer is sparse with Glyceria

SOIL Sampling Point: wasa084f\_w

Profile Des	cription: (E	Describe 1	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth		Matrix				x Features			<b>-</b> .	5	
(inches) 0-4	Color (		100	Color (r	noist)	%	_Type'	Loc <sup>2</sup>	Texture	Remarks	
			100		F/0	40				Distinct as dec	
4-18	<u>5YR</u>	3/4	90	5YR	5/6	10_		IVI	<u> </u>	Distinct redox	
				-							
				-					_		
				-							
				-							
-			-								
	Concentration		etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Histoso	Indicators:			Polyve	alua Balov	w Surface	(S8) (I <b>D</b> I	D D		for Problematic Hydric Soils <sup>3</sup> : Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2	2)		-	RA 149B)		(30) (LIV	ix ix,		Prairie Redox (A16) (LRR K, L, R)	
	listic (A3)							LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A d Layers (A				-	/lineral (F1 Matrix (F2		λ, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
Deplete	ed Below Da	rk Surface	e (A11)	Deple	ted Matrix	(F3)	,		Thin D	Dark Surface (S9) (LRR K, L)	
	ark Surface					rface (F6)	· <b>7</b> \		Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mine Gleyed Matr				Depress	Surface (F ions (F8)	7)		<pre> Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</pre>		
Sandy	Redox (S5)				·	` ,			✓ Red Parent Material (F21)		
	d Matrix (S6 urface (S7) (		II D A 1/0	2)					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
Daik Si	illace (57) (	LIXIX IX, IV	ILIXA 1491	رد					Other	(Explain in Remarks)	
		_		etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.	
Type:	Layer (if ob	served):									
	nches):			<del></del> ,					Hydric Soil	Present? Yes <u>√</u> No	
Remarks:				<del></del>					,		
	red par	ent ma	terial,	the perd	ent re	dox in	the se	cond lay	er is var	iable, but on average is	
10%.	•			•				-		_	



wasa084f\_w\_N



wasa084f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL		
File #: wasa084	Date of visit(s): 09/20/2019		
Location: PLSS: 045N-003W-36	Ecological Landsca Superior Coastal Plain	ipe:	
Lat: <u>46.338031</u> Long: <u>-90.680967</u>	Watershed: LS12 Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
92F, 388B, Udorthents, ravines and escarpments, 25 to 60 percent slopes, Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes	Wetland Type(s): PFO- Hardwood swamp/Floodplain forest		
Field Verified:			
Series not verified. The soils consist of a clay texture.	Wetland Size: 0.08	Wetland Area Impacted 0.08	
	Vegetation: Plant Community D	escription(s):	
Hydrology: FAC-Neutral, Geomorphology, water marks, drift deposits	The wetland is a floodplain forest located along an intermittent stream. Canopy is dominated by red maple and American elm with a ground layer of mixed sedge.		

 SITE MAP

#### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Υ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting.
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- ' '	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N N	Occurs in a Joint Venture priority township
6	Y	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	Y	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
0			
8	N	Y	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	Ν	N	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	Y	Y	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N.	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	IN	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N N	Basin wetland or constricted outlet
3	N	N N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
-	Y		Dense, persistent vegetation
5		Y	
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Wi	ldlife Habita	at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wir	nter, etc.	
Observed	Potential	Charles/Habitat/Comments
Observed	Y	Species/Habitat/Comments White-tailed deer
Y	Y	Songbirds
	Y	Frogs
	Υ	Bear
Fis	h and Aqua	tic Life Habitat and Species Observations
Lis	t: direct ob	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
Y	Y	Frogs
	Y	Aquatic invertebrates
	<u> </u>	
	!	

Section 1 Comments (Refer to Section 1 numbers)

WQ2- wetland has a intermittent stream flowing through it that transfers water. WQ5- dense sedge cover throughout. HU1- active bear hunting.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Populus tremuloides			PFO	Abundant
Glyceria striata			PFO	Abundant
Symphyotrichum lateriflorum			PFO	Common
Symphyotrichum lateriflorum Rubus pubescens			PFO	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Low invasive species cover with good diversity throughout canopy. Ground layer has a number of sedges.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Vetland is located along an perennial river. Area is relatively undisturbed.							

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			<b>SIGNIFICANC</b>	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat			<b>√</b>		
Fish and Aquatic Life Habitat		<b>✓</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Diverse canopy with a ground layer of mixed sedge.
Human Use Values	Used for hunting
Wildlife Habitat	Large habitat block located along intermittent stream.
Fish and Aquatic Life Habitat	Flowing water through intermittent creek.
Shoreline Protection	N/A
Flood and Stormwater Storage	Transports water into large wetland complex downhill.
Water Quality Protection	Dense vegetation in areas. Water moves through intermittent stream.
Groundwater Processes	Majority of input is from precipitation events.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: _/	Ashland	Sampling Date: 2019-10-07		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa084_u		
Investigator(s): NTT/SAM					
Landform (hillslope, terrace, etc.): Footslope					
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.398008	Long: -90 820744	Datum: WGS84		
Soil Map Unit Name: <u>Udorthents, ravines an</u>	nd escarpments 25 to 60	nercent slones NWI classi	fication:		
Are climatic / hydrologic conditions on the site typica					
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transect	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the S	Sampled Area			
	No ✓ within	a Wetland? Yes	No <u>√</u>		
Wetland Hydrology Present? Yes		optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or	in a separate report.)	oide alana within a m	acia hardwaad faraat		
The upland point is located on nea	•		esic nardwood forest		
community. Survey point was revis	sited to collect soils da	ta.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)		
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface So	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage F			
	Aquatic Fauna (B13)				
	Marl Deposits (B15)		n Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish B	urrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv	ing Roots (C3) Saturation	Visible on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4	4) Stunted or	Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tille	d Soils (C6) Geomorph	ic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Ad	quitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopoç	graphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutr	al Test (D5)		
Field Observations:					
Surface Water Present? Yes No	/ Depth (inches):	_			
Water Table Present? Yes No	/ Depth (inches):	_			
	Depth (inches):	Wetland Hydrology Pres	ent? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, previous ins	 pections), if available:			
	.g,	F,,			
Remarks:	wara abaamyad				
No wetland hydrologic indicators v	were observed.				

0 0 0 0 0 0	Y N	FACU FACU FACU FACU	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 9 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)  Prevalence Index worksheet:
0 0 0 	Y Y N	FACU FACU FACU	That Are OBL, FACW, or FAC: 4 (A)  Total Number of Dominant Species Across All Strata: 9 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
0 0 0 	Y Y N	FACU FACU FACU	Total Number of Dominant Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  44.44 (A/B)
0 0 	Y N	FACU FACU	Species Across All Strata: 9 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
0 	_ N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
			That Are OBL, FACW, or FAC: 44.44 (A/B)
0 = 0 =			Prevalence Index worksheet:
0 = 0 =			
)	= Total Co		Total % Cover of: Multiply by:
		ver	OBL species0 x 1 =0
			FACW species5 x 2 =10
	Y	<u>FACU</u>	FAC species x 3 = 60
		FACU	FACU species90 x 4 =360
			UPL species0 x 5 =0
			Column Totals: <u>115</u> (A) <u>430</u> (B)
			Prevalence Index = B/A = 3.74
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
)=	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
^	\ <u>/</u>	E40	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
		· ·	data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
)	Y	<u>FAC</u>	be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
<u> </u>	Total Co		height.
<u>U</u> =	= Total Co	vei	
			Hydrophytic
			Vegetation   Present?   Yes No ✓
)=	= Total Co	ver	
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	O Y FAC O Y FACW O Y FAC O TOTAL COVER

SOIL Sampling Point: wasa084\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth (in all as)	Matrix	0/		x Features		1.2.2	Tautuma	Damada
(inches)	Color (moist) 10YR 2/1	100	Color (moist)	<u> %</u>	Type'	Loc <sup>2</sup>	CI	Remarks
4-9	5YR 4/4	100					SICL	
Type: C=C Hydric Soil  Histoso Histic E Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy N Sandy F Stripped Dark Su		e (A11)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Su Depleted Dark S Redox Depress	w Surface  ace (S9) (L  dineral (F'  Matrix (F2  (F3)  rface (F6)  Surface (F  ions (F8)	(S8) (LRF LRR R, MI I) (LRR K )	R R, _RA 149B) , L)	Indicators for F  2 cm Muck Coast Prair 5 cm Mucky Dark Surface Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spoce Red Parent Very Shallo Other (Expl	=Pore Lining, M=Matrix.  Problematic Hydric Soils³:  (A10) (LRR K, L, MLRA 149B) ie Redox (A16) (LRR K, L, R) y Peat or Peat (S3) (LRR K, L, R) se (S7) (LRR K, L) Selow Surface (S8) (LRR K, L) Gurface (S9) (LRR K, L) rloodplain Soils (F12) (LRR K, L, R) rloodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12) ain in Remarks)
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil Pres	sent? Yes No✓_
Remarks:	x features nor							



wasa084\_u\_N



wasa084\_u\_S

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	_ Sampling Date: <u>2019-10-07</u>		
Applicant/Owner: Enbridge					
Investigator(s): NTT/SAM	Section, Township	o, Range: <u>045N-004W-</u>	11		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46					
Soil Map Unit Name: Udorthents, ravines and esc					
Are climatic / hydrologic conditions on the site typical for this	•	•			
Are Vegetation, Soil, or Hydrologys	•				
Are Vegetation, Soil, or Hydrology r		(If needed, explain any answ			
SUMMARY OF FINDINGS – Attach site map	showing sampling poi	nt locations, transect	s, important features, etc.		
Hydrophytic Vegetation Present? Yes✓ N	ls the Sam	-			
Hydric Soil Present? Yes ✓ N	o within a W	/etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes✓ N		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a sep The wetland includes both sidehill and	parate report.)	Sample recorded	on a side slone		
dominated by alder. Overall, very difficu	•	•	•		
derimated by dider. Overdil, very dimet	an to define ato with	ino variability in riyo	irologio disoriargo.		
HYDROLOGY		O I I - I - I			
Wetland Hydrology Indicators:			cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all t		Surface Soi			
	er-Stained Leaves (B9)	Drainage Patterns (B10)			
	atic Fauna (B13)	Moss Trim Lines (B16)			
	I Deposits (B15) rogen Sulfide Odor (C1)	Dry-Season Water Table (C2) Crayfish Burrows (C8)			
	dized Rhizospheres on Living		Visible on Aerial Imagery (C9)		
	sence of Reduced Iron (C4)		Stressed Plants (D1)		
	ent Iron Reduction in Tilled Sc				
	n Muck Surface (C7)	Shallow Aqı			
	er (Explain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	si (Expiaiii iii Nemarks)	FAC-Neutra			
Field Observations:		FAC-Neutra	ar rest (D3)		
Surface Water Present? Yes No ✓ De	pth (inches):				
·	pth (inches):				
	pth (inches): 0	Wetland Hydrology Prese	ent? Yes <u>√</u> No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well,	aeriai pnotos, previous inspec	tions), if available:			
Remarks:					
Sidehill slope with discharge. Likely a n	•		•		
seeping from those areas with coarse r	naterial whereas the	drier areas have d	lenser substrate.		
1					

Tree Stratum (Plot size: 30' )				
Tice otratum (i lot size)	Absolute % Cover	Dominant		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2.				Total Number of Dominant
3 4				Species Across All Strata: 7.0 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 57.14285714285714 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species 90.0 x 2 = 180.0
1. <u>Alnus incana</u>	75.0	Y	<b>FACW</b>	FAC species 10.0 x 3 = 30.0
2. <u>Cornus racemosa</u>	10.0	N	FAC	FACU species 35.0 x 4 = 140.0 UPL species 0.0 x 5 = 0.0
3				Column Totals: 135.0 (A) 350.0 (B)
4				Prevalence Index = B/A = 2.6
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	85.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Carex gracillima</u>		<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Equisetum pratense</u>		<u>Y</u>	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Poa palustris</u>		<u>Y</u>	<u>FACW</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Solidago gigantea</u>		<u>Y</u>	<u>FACW</u>	be present, unless disturbed or problematic.
5. <u>Fragaria virginiana</u>		Y	<u>FACU</u>	Definitions of Vegetation Strata:
6. <u>Agrimonia striata</u>	5.0	Y	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diamete
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-		
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
201	50.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
				Hydrophytic Vegetation
3				
3		= Total Co		Present? Yes <u>√</u> No

SOIL Sampling Point: wasa083s\_w

Profile Desc	ription: (I	Describe t	o the dep	th needed	to docum	nent the i	ndicator	or confirm	the absence	e of indicators.)			
Depth (inches)	Color (	Matrix	0/	Color /r		K Features		Loc <sup>2</sup>	Texture	Remarks			
(inches) 0-6	5YR	3/3	100	Color (r	HOIST)	%	Type'	LOC	rexture	Remarks			
6-12	5YR	<u>3/3</u> 4/4	90	5YR	5/6	10		M	C Distinct redox				
	5YR	4/4	80	5YR	5/6	20	C	M		Distinct redox			
12-10	311	7/4	_00_	3111	<u> </u>	_20_		IVI		Distilict redux			
<sup>1</sup> Type: C=Co	ncentratio	n D=Denk	etion RM:	-Reduced I	Matrix MS		Sand Gr	ains	<sup>2</sup> I ocation	n: PL=Pore Lining, M=Matrix.			
Hydric Soil			otion, rtivi	-110000001	viatrix, ivic	- Masket	Touria On	aii 10.		s for Problematic Hydric Soils <sup>3</sup> :			
Histosol					alue Below		(S8) ( <b>LR</b> F	RR,		Muck (A10) (LRR K, L, MLRA 149B)			
Histic Ep	oipedon (A2 stic (A3)	2)			<b>RA 149B</b> ) Dark Surfa		RRR MI	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )			
	n Sulfide (	<b>A4</b> )			Mucky N					Surface (S7) ( <b>LRR K, L</b> )			
	d Layers (A	,	. / ^ 4 4 \	-	Gleyed N		)			alue Below Surface (S8) (LRR K, L)			
	d Below Da ark Surface		(A11)		ted Matrix Dark Sur				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)				
Sandy M	lucky Mine	ral (S1)		Deple	ted Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
-	leyed Matr edox (S5)	rix (S4)		Redox	Depressi	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)				
-	Matrix (S6	5)							Very Shallow Dark Surface (TF12)				
Dark Su	rface (S7)	LRR R, M	LRA 149	3)					Other	(Explain in Remarks)			
<sup>3</sup> Indicators of	f hvdrophvt	ic vegetati	on and we	etland hydro	oloav mus	t be prese	ent. unless	s disturbed	or problemati	C.			
Restrictive I							,			-			
Туре:													
	ches):								Hydric Soi	I Present? Yes/ No			
Remarks:	rod no	ront m	otorial	whore	raday f	ooturo	o hove	worlob	ility in tor	me of percent based on			
depth.	r reu pa	arent m	alenai	wilele	redux i	eature	5 Have	vanab	ility ili ter	ms of percent based on			
асрии.													



wasa083s w SW



wasa083s\_w\_W

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-07
Applicant/Owner: Enbridge	State: WI Sampling Point: wasa083f_w1
Investigator(s): SAM/NTT	Section, Township, Range: <u>045N-004W-11</u>
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): None Slope (%): 0-2%
	7538 Long: -90.820531 Datum: WGS84
	ntly flooded complex, 0 to 4 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time	
	antly disturbed? Are "Normal Circumstances" present? Yes _ ✓ No
	ly problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ving sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes No	
Wetland Hydrology Present? Yes No	
Remarks: (Explain alternative procedures here or in a separate Narrow floodplain forest associated with the	e Brunsweiler River. Feature also receives additional
hydrologic inputs from upslope originating in	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	
	ined Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fa	
Saturation (A3) Marl Depo	
	Sulfide Odor (C1) Crayfish Burrows (C8)  Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	of Reduced Iron (C4) Stunted or Stressed Plants (D1)
	on Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck	
	olain in Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<u>–</u>
Surface Water Present? Yes No _ ✓ _ Depth (in	ches):
Water Table Present? Yes No _ ✓ Depth (in	ches):
Saturation Present? Yes No ✓ Depth (in	ches): Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial	ohotos previous inspections) if available:
Docoribe Necestada Data (etroam gaage, memering men, aenar	states, provided indepositions, in divaliable.
Remarks: Floodplain system with periodic flooding.	
Floodplain system with periodic flooding.	
1	

•				Sampling Point: wasa083f_w1
Tree Stratum (Plot size: 30' )	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	30.0	Υ	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 8.0 (A)
<ul><li>2. <u>Populus tremuloides</u></li><li>3</li></ul>				Total Number of Dominant Species Across All Strata: 9.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 88.88888888888888 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>65.0</u> x 2 = <u>130.0</u>
1. Alnus incana	20.0	Y	<u>FACW</u>	FAC species <u>50.0</u> x 3 = <u>150.0</u>
2				FACU species x 4 = 20.0
3				UPL species 0.0 x 5 = 0.0
4.				Column Totals: <u>120.0</u> (A) <u>300.0</u> (B)
				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	20.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Equisetum hyemale</u>	15.0	Y	FAC	data in Remarks or on a separate sheet)
2. Phalaris arundinacea	5.0	Y	<b>FACW</b>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Symphyotrichum lateriflorum</u>	5.0	Υ	FAC	4
4. Solidago gigantea		Y	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Anemone canadensis		Y	FACW	
6. <u>Poa compressa</u>			FACU	Definitions of Vegetation Strata:
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10 11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	40.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)		- 10141 00		
1	<u> </u>			
2.				Hydrophytic
2				1 i yai opii yiic
3				Vegetation

SOIL Sampling Point: wasa083f\_w1

Profile Desc	cription: (Describe t	o the depth	n needed to docur	ment the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		. 2	<b>-</b> .	B
(inches)	Color (moist)		Color (moist)	%	Type'	<u>Loc<sup>2</sup></u>	<u>Texture</u>	Remarks
0-7	5YR 3/4						<u>S</u> _	
<u>7-18</u>	2.5YR 2.5/2	100					SCL_	
								_
<sup>1</sup> Type: C=C	oncentration, D=Depl	etion, RM=F	Reduced Matrix, M	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
Hydric Soil	Indicators:							Problematic Hydric Soils <sup>3</sup> :
Histosol	` '	-	Polyvalue Belo		(S8) ( <b>LRF</b>	RR,		k (A10) (LRR K, L, MLRA 149B)
	oipedon (A2) stic (A3)		MLRA 149B Thin Dark Surfa	,	RRR MI	RΔ 149R)		irie Redox (A16) ( <b>LRR K, L, R</b> ) ky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)	_	Loamy Mucky N	. , ,		,		ace (S7) ( <b>LRR K, L</b> )
	d Layers (A5)	_	Loamy Gleyed		)			Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11) _	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Nucky Mineral (S1)	_	Redox Dark Su Depleted Dark	, ,			-	ganese Masses (F12) ( <b>LRR K, L, R</b> ) Floodplain Soils (F19) ( <b>MLRA 149B</b> )
-	Gleyed Matrix (S4)	_	Redox Depress		")			odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)	_	_ ,	,				nt Material (F21)
	Matrix (S6)							low Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, M	ILRA 149B)					Other (Ex	plain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetati	on and wetl	and hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:								
Depth (in	ches):		<u></u>				Hydric Soil Pre	esent? Yes/ No
Remarks:								
								with Brunsweiler River.
		s are ev	vident; howe\	/er, fea	ture ex	chibits v	vetland hyd	rology and hydrophytic
vegetation	n.							



wasa083f\_w1\_NW



wasa083f\_w1\_SE

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: <u>2019-09-26</u>		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa083f_w2		
Investigator(s): NTT/DGL	Section, Township	, Range: <u>045N-004V</u>	<i>V</i> -11		
Landform (hillslope, terrace, etc.): Floodplain					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.396					
Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, freque					
•					
Are climatic / hydrologic conditions on the site typical for this time	-				
Are Vegetation, Soil, or Hydrology signific					
Are Vegetation, Soil, or Hydrology natura	lly problematic? (	If needed, explain any ans	swers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map show	wing sampling poir	nt locations, transec	cts, important features, etc.		
Hydrophytic Vegetation Present? Yes✓ No	Is the Samp	pled Area			
Hydric Soil Present? Yes ✓ No	:41a.i.a. a. VA/a	etland? Yes	✓ No		
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate Floodplain forest system with varying topog		ut feature.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Inc	dicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that a	pply)	Surface S	Soil Cracks (B6)		
Surface Water (A1) Water-Sta	ained Leaves (B9)	Drainage	Drainage Patterns (B10)		
High Water Table (A2) Aquatic F			Moss Trim Lines (B16)		
Saturation (A3) Marl Depo			Dry-Season Water Table (C2)		
	Sulfide Odor (C1)		Crayfish Burrows (C8)		
	control of Reduced Iron (C4)		n Visible on Aerial Imagery (C9)		
	on Reduction in Tilled So		r Stressed Plants (D1) hic Position (D2)		
	k Surface (C7)	Shallow A			
	plain in Remarks)		ographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neu	tral Test (D5)		
Field Observations:					
Surface Water Present? Yes No✓ Depth (in	iches):				
Water Table Present? Yes No Depth (ir	•				
Saturation Present? Yes No✓ Depth (in	iches):	Wetland Hydrology Pre	sent? Yes No		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspect	ions), if available:			
		,			
Remarks: Floodplain hydrology. Drift deposits through	hout with water n	narks on most the	trees in near proximity		
to the waterbody feature.	iout mai mator n	inding on most the	the second resulting		
la maiorizady realarer					

VEGETATION - Use scientific names of plants				Sampling Point: wasa083f_w2
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Thuja occidentalis	_50	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Acer saccharum		Υ	FACU	
3. <u>Tilia americana</u>			FACU	Total Number of Dominant Species Across All Strata: 3 (B)
4.				` ` '
				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
4-1	85	= Total Co	over	OBL species x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 50 x 2 = 100 FAC species 60 x 3 = 180
1	<u> </u>			FACU species
2		-		UPL species x 5 = 0
3				Column Totals: 155 (A) 460 (B)
4		-		
5				Prevalence Index = B/A = 2.97
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. <u>Equisetum hyemale</u>	50	Υ	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Matteuccia struthiopteris		N	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Acer saccharum		N	FACU	
4. Parthenocissus inserta			FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		· ·		
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9	_			and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	70	= Total Co	over	noigh.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
	0	= Total Co	over	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			<u>I</u>
Canopy of white cedar with sugar map	le, bass	wood, a	and pape	er birch and a ground layer of scouring
rush and woodbine. Braun-Blanquet so	ale use	d.		

SOIL Sampling Point: wasa083f\_w2

Profile Desc	cription: (Descr	ibe to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matr		0.1		x Features		12	T t	Describe	
(inches)	Color (moist		Color (m	ioist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
0-6	10YR 2/							SL		
6-20	7.5YR 3/	<u>2 90</u>	<u>7.5YR</u>	6/6	_10_	<u>C</u>	M	_FSL_	Prominent redox	
					. ———				-	
	oncentration, D=	Depletion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :	
Hydric Soil Histosol			Polyva	lua Balov	v Surface	(S8) (I <b>D</b> I	D D		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2)		-	RA 149B)		(00) ( <b>L</b> IXI	ν ιν,		Prairie Redox (A16) (LRR K, L, R)	
Black H	istic (A3)						LRA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4)			-	Mineral (F1		(, L)		Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Su	rface (A11)		ed Matrix	Matrix (F2)	)			alue Below Surface (S8) (LRR K, L)  Dark Surface (S9) (LRR K, L)	
	ark Surface (A12				rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mineral (S				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S∠ Redox (S5)	4)	Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
-	Matrix (S6)							Red Parent Material (F21)      Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR	R, MLRA 149	3)						(Explain in Remarks)	
31 11 1			4 11 1							
	f hydrophytic veg Layer (if observ		etiana nyaro	logy mus	t be prese	ent, unies:	s aisturbea	or problemati	С.	
Type:		ou).								
	ches):							Hydric Soi	l Present? Yes No	
Remarks:	<u> </u>							_		
	oncentratio	ns presen	t in botto	om soi	il layer.					
		•								



wasa083f\_w2\_N



wasa083f\_w2\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): MAL/NTT/DGL/SAM			
File #: wasa083	Date of visit(s): 09/14/2019			
Location: PLSS: <u>045N-004W-11</u>	Ecological Landscape: Superior Coastal Plain			
Lat: 46.397486 Long: -90.820643  County: Ashland Town/City/Village: Marengo town	Watershed: LS12, Marengo River			
SITE DESCRIPTION				
Soils:  Mapped Type(s): 92F, 388B, Udorthents, ravines and escarpments, 25 to 60 percent slopes, Pelkie, occasionally flooded-Dechamps, frequently flooded complex, 0 to 4 percent slopes	WWI Class: T3/5Kw, T5/E2K Wetland Type(s): PFO - Fooodplain Forest, PSS - Alder thicket			
Field Verified: Series not verified. The soils consist of a sand				
over a sandy clay loam.	Wetland Size: 6.29	Wetland Area Impacted 6.29		
Hydrology: The wetland complex is along the banks of the Brunsweiler River. The feature is frequently flooded during high water and rainfall events as evidenced by the large woody debris and sandy substrate within the wetland feature.	Vegetation: Plant Community Description(s): The wetland is a complex that includes of floodplain forest plant community and an alder thicket.			

 SITE MAP	

#### SECTION 1: Functional Value Assessment

1 Y Y Y Used for recreation (hunting, birding, hiking, etc.), List: Hunting 2 N N Usually or physically accessible to public 3 N N N Visually or physically accessible to public 4 Y Y Asshricially pleasing due to diversity of habitat types, lack of pollution or degradation 5 Y Y Asshricially pleasing due to diversity of habitat types, lack of pollution or degradation 6 N N Supports or provides habitat for adangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Will Will Willidir Habitat 1 N N Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10'0% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover >20%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the Wi All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present >25 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Pish and Aquatic Life Habitat 1 Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 5 N N Notarial Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Standing water provides habitat for amphibians and squatic invertebrates 5 N N Notarial Heritage Inventory (NHI) listed aquatic species within aquatic system 6 N N Notarial Heritage Inventory (NHI) listed aquatic species within aquatic system 7 Y Y Standing short provides habitat for an prio				Functional Value Assessment
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3	1	Υ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
Y	2	N	N	Used for educational or scientific purposes
S Y Y List:Trout Stream Brunsweller River	3	N	N	Visually or physically accessible to public
S	4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
Section   Sec	_			
6 N N Supports or provides habitat for endangered, threatened or special concern species 7	5	Y	Y	
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	6	N	N	
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7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       N       N         GW       Groundwater Processes         1       N       N       Springs, seeps or indicators of groundwater present         2       N       N       Location near a groundwater divide or a headwater wetland         3       N       Y       Wetland remains saturated for	5	Υ	Υ	Point or non-point source inflow
N	6	N	N	Impervious surfaces cover >10% of land surface within the watershed
WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         N         N         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         N         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         Y         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%	7	Ν	N	Within a watershed with ≤10% wetland
WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         N         N         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         N         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         Y         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%	8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	WQ			Water Quality Protection
2 N N Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N W Wetland soils are organic	2		N	
4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%				
5       N       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	-			
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	-			
8     Y     Y     Discharge to surface water       9     N     N     Natural land cover in 100m buffer area < 50%	-	1		
9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic				
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		1 1 1	IN	
2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\vdash$	N.I	K I	
3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic		1		
<del>                                     </del>			· ·	
5   N   N   Wetland is within a wellhead protection area				
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) ST-5: Wetland receives agricultural runoff from the upland to the NW Where cattle activity including tracks were FA-2, WH-9, 10: The floodplain likely holds standing water for portions of the year when the river breaches the banks. WQ-5: The herb layer is rather sparsely vegetated dominated by tall scouring rush. HU-1: Hunting occurring during site assessment within the buffer area of the wetland. Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments bird, raptor, amphibian, aquatic and terrestrial insect habitat based on proximity to river and Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%√	<10%
Strata	Missing stratum(a) ✓ or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Common
Fraxinus nigra			PFO	Common
Alnus incana			PFO/PSS	Abundant
Equisetum hyemale			PFO	Abundant
Phalaris arundinacea			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Rare
Solidago gigantea			PFO/PSS	Uncommon
Anemone canadensis			PFO	Rare
Poa compressa			PFO	Rare
Thuja occidentalis			PFO	Abundant
Acer saccharum			PFO	Uncommon
Tilia americana			PFO	Uncommon
Abies balsamea			PFO	Uncommon
Matteuccia struthiopteris			PFO	Uncommon
Cornus racemosa			PSS	Uncommon
Carex gracillima			PSS	Uncommon
Equisetum pratense			PSS	Rare
Poa palustris			PSS	Rare
Agrimonia striata			PSS	Rare

#### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is moderate with a community of floodplain species along the edge of the river transitioning into sugar maple forest, and an alder thicket. The ground layer is dominated by a fairly diverse mix of native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	V			0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
	Х		ı	0	Removal of tree or shrub strata – logging,
	^		L	С	unprescribed fire
X	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
X	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The floodplain is likely somewhat affected by the cattle activity to the NW but is relatively intact and contains multiple
layers of native vegetation. Hunting trails and low cover if invasive species are present.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			<b>SIGNIFICANC</b>	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity			<b>√</b>		
Human Use Values		<b>1</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection		<b>✓</b>			
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	The feature has moderate floristic integrity with an assemblage of primarily native species across 3 strata.
Human Use Values	Hunting occurs on the property.
Wildlife Habitat	The floodplain contains all three strata providing habitat for graminoid dominated basin with herb layer provides habitat for select species which occupy disturbed non-continuous habitat.
Fish and Aquatic Life Habitat	The proximity to a river and frequently of flooding provide moderate aquatic life habitat.
Shoreline Protection	The floodplain is relatively small and linear providing a small buffer to the inland.
Flood and Stormwater Storage	The wetland provides a small buffer and location for stormwater to collect during periods of high water and flooding.
Water Quality Protection	The wetland is directly connected surface water and provides moderate storage of flood water based on vegetation density and size of floodplain.
Groundwater Processes	The feature primarily interacts with surface water from the river.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Cou	nty: Ashland	Sampling Date: <u>2019-10-07</u>		
Applicant/Owner: Enbridge					
Investigator(s): NTT/SAM	Section,	Township, Range: 045N-00	4W-11		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests L					
Soil Map Unit Name: <u>Udorthents, ravines ar</u>					
Are climatic / hydrologic conditions on the site typica					
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	map showing samp	ling point locations, tran	sects, important features, etc.		
Hydrophytic Vegetation Present? Yes		the Sampled Area			
	No/_ w	rithin a Wetland? Yes	No <u>√</u>		
		yes, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or A mesic hardwood system with a		ad canony Recent cat	tle activity and obviously		
actively grazed. Remnant apple to		ed carropy. Recent car	the activity and obviously		
donvery grazea. Reminant apple to	cco present.				
HYDROLOGY		0	and a disease (asia is assessed to assess as a six as a		
Wetland Hydrology Indicators:	sock all that apply)		y Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; ch Surface Water (A1)	Water-Stained Leaves (		ce Soil Cracks (B6) age Patterns (B10)		
	Water-Stained Leaves ( Aquatic Fauna (B13)				
	Marl Deposits (B15)		<ul><li> Moss Trim Lines (B16)</li><li> Dry-Season Water Table (C2)</li></ul>		
	Hydrogen Sulfide Odor		ish Burrows (C8)		
	Oxidized Rhizospheres		ation Visible on Aerial Imagery (C9)		
	Presence of Reduced In		ed or Stressed Plants (D1)		
	Recent Iron Reduction in		norphic Position (D2)		
	Thin Muck Surface (C7)		ow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remai	ks) Micro	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-	Neutral Test (D5)		
Field Observations:					
	/ Depth (inches):				
	/ Depth (inches):				
Saturation Present? Yes No  (includes capillary fringe)	/ Depth (inches):	Wetland Hydrology	Present? Yes No✓		
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previo	us inspections), if available:			
Remarks:					
No wetland hydrology indicators w	vere observed.				

**VEGETATION** – Use scientific names of plants.

T 0 (D)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
Populus grandidentata     Pierra de la companya		FACU	That Are OBL, FACW, or FAC:1.0 (A)	
2. <u>Picea glauca</u>			FACU	Total Number of Dominant
3. <u>Betula papyrifera</u>			<u>FACU</u>	Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0 (A/B)
5				That Are OBL, I ACW, OF AC (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	80.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0.0 x 2 = 0.0
1. Ostrya virginiana	15.0_	<u>Y</u>	<u>FACU</u>	FAC species 10.0 x 3 = 30.0 FACU species 109.0 x 4 = 436.0
2			·	UPL species
3				Column Totals: <u>119.0</u> (A) <u>466.0</u> (B)
4				
5				Prevalence Index = B/A =3.9
6				Hydrophytic Vegetation Indicators:
7			· ———	1 - Rapid Test for Hydrophytic Vegetation
	15.0	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )	40.0	\ <u>/</u>	FAOLI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Carex gracillima		Y	FACU	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Symphyotrichum lateriflorum</u>		<u>Y</u>	FAC	Froblematic Hydrophytic Vegetation (Explain)
3. <u>Agrimonia striata</u>			FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Fragaria virginiana</u>			FACU	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	24.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3.				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate Immediate area with an interrupted car Ground layer dissipating as the growing	opy of b		n aspen,	, with white spruce and paper birch.

Sampling Point: wasa083\_u1

SOIL Sampling Point: wasa083\_u1

		to the dep				or confirm	n the absence of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-6	10YR 2/2	100					CL	
6-18	5YR 4/4							
							<del></del>	
		pletion, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Histosol			Polyvalue Belov	/ Surface	(S8) (I RE	R.	Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (LRR K, L, MLRA 149B	١
	pipedon (A2)		MLRA 149B)		(00) (=111	,	Coast Prairie Redox (A16) (LRR K, L, R)	,
	stic (A3) en Sulfide (A4)		Thin Dark Surfa				<ul><li>5 cm Mucky Peat or Peat (S3) (LRR K, L,</li><li>Dark Surface (S7) (LRR K, L)</li></ul>	R)
	d Layers (A5)		<ul><li>Loamy Mucky Mineral (F1) (LRR K, L)</li><li>Loamy Gleyed Matrix (F2)</li></ul>				Polyvalue Below Surface (S8) (LRR K, L)	
	d Below Dark Surfa	ce (A11)	Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)	Ε,
	ark Surface (A12)  Mucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)		Iron-Manganese Masses (F12) (LRR K, L Piedmont Floodplain Soils (F19) (MLRA 1	
Sandy G	Bleyed Matrix (S4)		Redox Depressions (F8)				Mesic Spodic (TA6) (MLRA 144A, 145, 14	
	Redox (S5) I Matrix (S6)						<ul><li>Red Parent Material (F21)</li><li>Very Shallow Dark Surface (TF12)</li></ul>	
	rface (S7) (LRR R,	MLRA 149E	3)				Other (Explain in Remarks)	
<sup>3</sup> Indicators o	f hydrophytic vegeta	ation and we	tland hydrology mus	t be prese	ent, unless	disturbed	l or problematic.	
Restrictive I	Layer (if observed	):						
Type:							Hadria Cail Brasanto Van	,
Depth (in	ches):						Hydric Soil Present? Yes No	_
Remarks:	r features noi	hvdric s	soil indicators	preser	nt			
. 10 10407		,		p. 000.	•••			



wasa083\_u1\_N



wasa083\_u1\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project		City/County: Ash	nland	Sampling Date: 2019-09-26	
Applicant/Owner: Enbridge	•				Sampling Point: wasa083_u2	
Investigator(s): NTT/DGL			Section, Township	o, Range: <u>045N-004\</u>	N-12	
					Slope (%): <u>0-2%</u>	
Subregion (LRR or MLRA): No	orthcentral Forests	Lat: 46 39683	.0	Long: -90.818881	Datum: WGS84	
					ssification:	
Are climatic / hydrologic conditi						
					es" present? Yes No	
Are Vegetation, Soil						
SUMMARY OF FINDING	S – Attach sit	e map showing	g sampling poi	nt locations, transe	ects, important features, etc.	
Hydrophytic Vegetation Prese	ent? Yes	No <u></u> ✓				
Hydric Soil Present?		No <u></u> ✓	within a W	etland? Yes	No/_	
Wetland Hydrology Present?		No <u></u> ✓	If yes, option	onal Wetland Site ID:		
Remarks: (Explain alternative Mesic hardwood cor				ite cedar, paper b	pirch and aspen.	
	,	G		7	·	
LIVEROLOGY						
HYDROLOGY Wetland Hydrology Indicate	are:			Socondary Ir	ndicators (minimum of two required)	
Primary Indicators (minimum		shack all that annly)		-	Soil Cracks (B6)	
Surface Water (A1)	or one is required, c	Water-Stained				
High Water Table (A2)		Aquatic Fauna			Drainage Patterns (B10) Moss Trim Lines (B16)	
Saturation (A3)		Marl Deposits			Ivioss Triff Lines (B16) Dry-Season Water Table (C2)	
Water Marks (B1)		Hydrogen Sulf		· ·	Burrows (C8)	
Sediment Deposits (B2)				· · · · · · · · · · · · · · · · · · ·	on Visible on Aerial Imagery (C9)	
Drift Deposits (B3)		Presence of R	-		or Stressed Plants (D1)	
Algal Mat or Crust (B4)			eduction in Tilled So		phic Position (D2)	
Iron Deposits (B5)		Thin Muck Sur			Aquitard (D3)	
Inundation Visible on Aer	ial Imagery (B7)	Other (Explain			pographic Relief (D4)	
Sparsely Vegetated Cond		Other (Explain	iii rtemanoj		utral Test (D5)	
Field Observations:	<u> </u>				a.i.a. 1 551 (2 5)	
Surface Water Present?	Yes No _	✓ Depth (inches	s):			
Water Table Present?	Yes No _	✓ Depth (inches	s):			
Saturation Present?	Yes No _	✓ Depth (inches	s):	Wetland Hydrology Pro	esent? Yes No/	
(includes capillary fringe)  Describe Recorded Data (stre	am gauge monitor	ing well aerial phot	os previous inspec	tions) if available:		
Booonbe Rooorded Bata (Stre	am gaage, monitor	ing wen, aenai priot	oo, previous mopes	donoj, ii avaliabio.		
Remarks:	· · · · · · · · · · · · · · · · · · ·					
No wetland hydrolog	y indicators	were observe	ea.			

**VEGETATION** – Use scientific names of plants.

/EGETATION - Use scientific names of plants				Sampling Point: wasa083_u2
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Thuia occidentalis				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Acer saccharum				
3. Betula papyrifera			FACU	Total Number of Dominant Species Across All Strata: 4 (B)
4. Populus tremuloides				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_70_	= Total Co	over	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species25 x 2 =50
1				FAC species <u>25</u> x 3 = <u>75</u>
2				FACU species <u>45</u> x 4 = <u>180</u>
3.				UPL species <u>5</u> x 5 = <u>25</u>
				Column Totals:(A)(B)
4				Prevalence Index = B/A =3.30
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Diervilla lonicera	17.5	V	NI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			FAC	Problematic Hydrophytic Vegetation¹ (Explain)
2. Carex pedunculata				robicinate riyarophytic vegetation (Explain)
3. <u>Pteridium aquilinum</u>			<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Eurybia macrophylla</u>			<u>UPL</u>	be present, unless disturbed or problematic.
5. <u>Carex gracillima</u>			<u>FACU</u>	Definitions of Vegetation Strata:
6. <u>Equisetum hyemale</u> 7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Harb All borbossous (non woody) plants, regardless
11.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				Woody vines – All woody vines greater than 3.28 ft in
12				height.
	47.5	= Total Co	over	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No✓
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate Sample point located on an ATV trail. I scale used.	sheet.) Not repre	esentat	ive of the	e surrounding forest. Braun-Blanquet

SOIL Sampling Point: wasa083\_u2

Profile Des	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of indicators	.)
Depth	Matrix	0/		x Features	4	1.2.2	Tautuna	Damadia
(inches) 0-6	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	SICL	Remarks
6-20	7.5YR 3/2			. ———			SIL	_
_0-20_	7.0110 0/2	100		· <del></del>				
				. ———				
				· ———				
<sup>1</sup> Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lin Indicators for Problema	
Histoso		_	Polyvalue Belov	v Surface	(S8) ( <b>LRF</b>	RR,		RR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)				Coast Prairie Redox	
	istic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N				5 cm Mucky Peat or Dark Surface (S7) (L	Peat (S3) ( <b>LRR K, L, R</b> ) <b>RR K, L</b> )
Stratifie	d Layers (A5)		Loamy Gleyed I	Matrix (F2		,	Polyvalue Below Sur	face (S8) (LRR K, L)
-	d Below Dark Surface ark Surface (A12)	e (A11)	<ul><li>Depleted Matrix</li><li>Redox Dark Suit</li></ul>				Thin Dark Surface (S	69) (LRR K, L) sses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S				_	Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				(MLRA 144A, 145, 149B)
-	Redox (S5) d Matrix (S6)						<ul><li>Red Parent Material</li><li>Very Shallow Dark S</li></ul>	
	urface (S7) (LRR R, N	ILRA 149B	)				Other (Explain in Re	
	of hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	ahaa).						Hydric Soil Present?	∕es No √
Remarks:	ches):						Tryuno con Tresent.	140
	c soil indicator	s prese	nt.					



wasa083\_u2\_N



wasa083\_u2\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/0	County: Ashland		Sampling Date: 2019-09-26		
Applicant/Owner: Enbridge	· ·			State: WI	Sampling Point: wasa118e_w		
Investigator(s): NTT/DGL		Section, Township, Range: <u>045N-004W-12</u>					
					Slope (%): <u>0-2%</u>		
Subregion (LRR or MLRA): No	orthcentral Forests	Lat: 46 392613	Long: -C	00 811824	Datum: WGS84		
Soil Map Unit Name: Portw	ing-Herbster (	complex. 0 to 6 pe	ercent slopes	NWI classific	ation:		
Are climatic / hydrologic condit	•		·				
					resent? Yes _ ✓ No		
_							
Are Vegetation, Soil							
SUMMARY OF FINDING	S – Attach sit	e map showing sar	npling point locat	ions, transects	important features, etc.		
Hydrophytic Vegetation Prese	ent? Yes	✓ No	Is the Sampled Area				
Hydric Soil Present?		✓ No	within a Wetland?	Yes <u>√</u>	No		
Wetland Hydrology Present?	Yes	✓ No	If yes, optional Wetla	nd Site ID:			
Remarks: (Explain alternative Roadside ditch featu							
Roausiue uiter leatt	ire, dominate	a by granninolus.					
HYDROLOGY							
Wetland Hydrology Indicate	ors:			Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum		heck all that apply)		Surface Soil	Cracks (B6)		
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage Pat			
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Li			
Saturation (A3)		Marl Deposits (B15)		Dry-Season \			
Water Marks (B1)		Hydrogen Sulfide Oc	dor (C1)	Crayfish Burr			
Sediment Deposits (B2)		Oxidized Rhizospher	res on Living Roots (C3	) Saturation Vi	sible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduce	d Iron (C4)	Stunted or St	ressed Plants (D1)		
Algal Mat or Crust (B4)		Recent Iron Reduction	on in Tilled Soils (C6)	✓ Geomorphic	Position (D2)		
Iron Deposits (B5)		Thin Muck Surface (	C7)	Shallow Aqui	tard (D3)		
Inundation Visible on Aer	rial Imagery (B7)	Other (Explain in Re	marks)	Microtopogra	phic Relief (D4)		
Sparsely Vegetated Con-	cave Surface (B8)			✓ FAC-Neutral	Test (D5)		
Field Observations:							
Surface Water Present?	Yes No	✓ Depth (inches):					
Water Table Present?	Yes No	✓ Depth (inches):					
Saturation Present?	Yes No _	✓ Depth (inches):	Wetland	l Hydrology Presen	t? Yes No		
(includes capillary fringe)  Describe Recorded Data (stre	eam gauge, monitor	ng well, aerial photos, pre	evious inspections). if a	vailable:			
,	3 0 7	0 / 1 /1	, ,,				
Remarks:	acturated by	drologio rogimo					
Feature likely with a	Saturated hy	arologic regime.					

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants.				Sampling Point: wasa118e_w
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	10	= Total Co	over	OBL species60 x 1 =60
Sapling/Shrub Stratum (Plot size: 15')				FACW species5 x 2 =10
1				FAC species15 x 3 =45
2.				FACU species5 x 4 =20
				UPL species0 x 5 =0
3				Column Totals: <u>85</u> (A) <u>135</u> (B)
5				Prevalence Index = B/A =1.59
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
FI	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	50	V	ODI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Scirpus cyperinus			OBL	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. <u>Calamagrostis canadensis</u>			OBL	1 Toblematic Hydrophytic Vegetation (Explain)
3. Juncus effusus		_N_	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Populus balsamifera			FACW	be present, unless disturbed or problematic.
5. <u>Populus tremuloides</u>		N	<u>FAC</u>	Definitions of Vegetation Strata:
6. <u>Trifolium pratense</u> 7		_N_	<u>FACU</u>	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.			- '	Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				Hudnonfortio
3			-	Hydrophytic Vegetation
4.		= Total Co		Present? Yes No

SOIL Sampling Point: wasa118e\_w

			dicator o	or confirm	the absence of inc	dicators.)
Depth Matrix		x Features	T 1	1 - 2	Tandon	Damente
(inches) Color (moist) %	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
		·				
		· —— -				
<sup>1</sup> Type: C=Concentration, D=Depletion,	RM-Reduced Matrix MS		Sand Gra	ine	2l ocation: Pl =	Pore Lining, M=Matrix.
Hydric Soil Indicators:	rawi–raeuuceu ividilix, IVI	J-IVIASNEU S	and Gla	10.		roblematic Hydric Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA)	Redox Dark Su Depleted Dark S Redox Depress	nace (S9) ( <b>LR</b> Mineral (F1) Matrix (F2) ( (F3) rface (F6) Surface (F7) ions (F8)	R R, ML	RA 149B) L)	Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangan Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Expla	A10) (LRR K, L, MLRA 149B) Per Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Pe (S7) (LRR K, L) Pelow Surface (S8) (LRR K, L) Per Rese Masses (F12) (LRR K, L, R) Per Rese Masses (F12) (MLRA 149B) Per Rese (TA6) (MLRA 144A, 145, 149B) Material (F21) Per Reservation of the companion o
<sup>3</sup> Indicators of hydrophytic vegetation an <b>Restrictive Layer (if observed):</b>	a wetiana nyarology mus	st be presen	i, uniess	disturbed	or problematic.	
Type: Depth (inches):					Hydric Soil Prese	ent? Yes <u>√</u> No
Remarks: Soils were not sampled due be hydric based on landsca				undergi	ound utilities.	. Soils are assumed to



wasa118e\_w\_E



wasa118e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	NTT/DGL			
File #:	Date of visit(s):			
wasa118	09/26/2019			
Location:	Ecological Landsca	ape:		
PLSS: <u>045N-004W-12</u>	Cupariar Capatal Dlain			
	Superior Coastal Plain			
Lat: 46.39258173 Long: -90.81159212	Watershed:			
	LS12 Marengo River			
County: Ashland Town/City/Village: Marengo town				
,				
SITE DESCRIPTION	1			
Soils:	WWI Class:			
Mapped Type(s):	N/A			
480B, Portwing-Herbster complex, 0 to 6 percent slopes	Wetland Type(s):			
, , , , , , , , , , , , , , , , , , , ,	PEM - Fresh wet meadow			
Field Verified:	l Livi Ticoli wo	t meadow		
Soils were not sampled due to the proximity of	Wetland Size:	Wetland Area Impacted		
potential underground utilities.	0.04	0.04		
potential underground utilities.	Vegetation:	0.04		
		Accorintion(a):		
Hydrology:	Plant Community D	• • •		
, ,	The wetland is a wet meadow community			
The wetland is seasonally saturated based on	located within a mowed roadside ditch			
hydrology indicators: FAC-Neutral test and	dominated by woolgrass.			
geomorphic position.		5		
•				

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

HU   V/N   Potential   Human Use Values: recreation, culture, education, science, natural scenic beauty
2
3
3
A
5 N N List:  6 N N Supports or provides habitat for endangered, threatened or special concern species in or adjacent to archaeological or cultural resource site Wildlife Habitat  1 N N Wetland and contiguous habitat >10 acres 2 N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover >50% (south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FAA Fish and Aquatic Life Habitat 1 N N Seasonally exposed mudifats present 1 N N N Natural Heritage Invented to famphibians and aquatic invertebrates 3 N N Natural Heritage invented in a many language in the provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage invented in the many language in the provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage invented in the many language in the provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage invented in the many language in the provides habitat for amphibians and aquatic invertebrates 4 N Y Vegetation is invented in a many language in the provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage invented in a many language invented in a stream or lake 4 N N Y Vegetation is in high language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many language in a many la
S
Files   N
The content of the
Wildlife Habitat
1 N N Wetland and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N N Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FAA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 N N A NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  NA NA Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Densely rooted emergent or woody vegetation  N N Dense, persistent vegetation  N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even  Water Quality Protection 1 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even  Water Quality
2
3
4 N N N 100 m buffer — natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable value and report of the protection of the protectio
6         N         N         Occurs in a Joint Venture priority township           6         N         N         Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)           7         N         N         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         N         Part of a large habitat block that supports area sensitive species           9         N         N         Ephemeral pond with water present ≥ 45 days           10         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           11         N         N         Seasonally exposed mudflats present           12         N         N         Provides habitat scarce in the area (urban, agricultural, etc.)           FA         Fish and Aquatic Life Habitat           1         N         N         Wetland is connected or contiguous with perennial stream or lake           2         N         Y         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Natural Heritage Inventory (NHI) listed aquatic species within aquatic system           4         N         Y         Vegetation is inundated in spring           SP         Shoreline Protection
6 N N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)   7 N N N   N   N N   N   N   Part of a large habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans   8 N N N   Part of a large habitat block that supports area sensitive species   9 N N   Ephemeral pond with water present ≥ 45 days   10 N Y   Standing water provides habitat for amphibians and aquatic invertebrates   11 N N   Seasonally exposed mudflats present     12 N N   Provides habitat scarce in the area (urban, agricultural, etc.)   FA   Fish and Aquatic Life Habitat     1 N N   Wetland is connected or contiguous with perennial stream or lake     2 N Y   Standing water provides habitat for amphibians and aquatic invertebrates     3 N N   Natural Heritage Inventory (NH1) listed aquatic species within aquatic system     4 N Y   Vegetation is inundated in spring     5 Noreline Protection     1 NA   NA   Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable     2 NA   NA   Densely rooted emergent or woody vegetation     3 NA   NA   Densely rooted emergent or woody vegetation     4 N N   Water flow through wetland is NOT channelized     3 N N   Dense, persistent vegetation     4 N N   Evidence of flashy hydrology     5 N N   Point or non-point source inflow     6 N N   Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even     WQ   Water flow through wetland is NOT channelized     8 N   Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even     Water flow through wetland is soon and floodwater based on previous section     1 N N   Rasin wetland or constricted outlet     3 N N   Poses, persistent vegetation     4 N N   Point or non-point source inflow     6 N N   Poses, persistent vegetation     1 N   Poses, persistent vegetation     2 N   N   Rasin wetland or constricted outlet     3 N   N   Poses, persistent vegetation     4 N   N   Poses, persistent vegetation     5 N
7 N N   plans   Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans   plans
8 N N Part of a large habitat block that supports area sensitive species  9 N N Ephemeral pond with water present ≥ 45 days  10 N Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed mudflats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  FA Fish and Aquatic Life Habitat  1 N N Wetland is connected or contiguous with perennial stream or lake  2 N Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N N Watural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  Shoreline Protection  1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  2 NA NA Densely rooted emergent or woody vegetation  ST Storm and Floodwater Storage  1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 N N Water flow through wetland is NOT channelized  3 N N Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces cover > 10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm even  Word Water Quality Protection  1 N N Basin wetland or constricted outlet  N N Posides substantial storage of storm and floodwater based on previous section  8 N N Vegetated wetland associated with a lake or stream  5 Y Y Dense, persistent vegetation  4 N N Vegetated wetland associated with a lake or stream  5 Y Y Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes
8 N N Part of a large habitat block that supports area sensitive species 9 N N Sephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Pototial to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm even Water Quality Protection 1 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water from agricultural land is major hydrology source
9
10 N
11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even WQ Water Quality Protection 1 N N Basin wetland or constricted outlet 3 N N V Saisn wetland storage of storm and floodwater based on previous section 5 N N Posides substantial storage of storm and floodwater based on previous section 9 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 9 N N N N N N N N N N N N N N N N N N N
12   N
FA
1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Autural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even WQ Water Quality Protection 1 N N Provides substantial storage of storm and floodwater based on previous section 2 N N Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water from agricultural land is major hydrology source 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes
2       N       Y       Standing water provides habitat for amphibians and aquatic invertebrates         3       N       N       Natural Heritage Inventory (NHI) listed aquatic species within aquatic system         4       N       Y       Vegetation is inundated in spring         SP       Shoreline Protection         1       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         2       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         3       NA       NA       Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable         3       NA       NA       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       N       N       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       N       N       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Provide substantial storage of land surface within the watershed         7       N
2       N       Y       Standing water provides habitat for amphibians and aquatic invertebrates         3       N       N       Natural Heritage Inventory (NHI) listed aquatic species within aquatic system         4       N       Y       Vegetation is inundated in spring         SP       Shoreline Protection         1       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         2       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         3       NA       NA       Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable         3       NA       NA       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       N       N       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       N       N       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Provide substantial storage of land surface within the watershed         7       N
3
SP   Shoreline Protection
SP Shoreline Protection  1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  3 NA NA Densely rooted emergent or woody vegetation  ST Storm and Floodwater Storage  1 N N Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 N N Water flow through wetland is NOT channelized  3 N N Dense, persistent vegetation  4 N N Evidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces cover >10% of land surface within the watershed  7 N N Within a watershed with ≤10% wetland  8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even  WQ Water Quality Protection  1 N N Provides substantial storage of storm and floodwater based on previous section  2 N N Basin wetland or constricted outlet  3 N N Vage flow through wetland is NOT channelized  4 N N Vegetated wetland associated with a lake or stream  5 Y Y Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N N Stormwater or surface water from agricultural land is major hydrology source  9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes
1       NA       NA       Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable         2       NA       NA       Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable         3       NA       NA       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       N       N       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       N       N       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Bas
2       NA       NA       Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable         3       NA       NA       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       N       N       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       N       N       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       N       N       Water flow through wetland is NOT channelized
NA
3       NA       NA       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       N       N       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       N       N       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       N       N       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation
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3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm even         WQ       Water Quality Protection         1       N       N       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       N       N       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       N       N
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8         N         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%
8         N         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%
9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes
GW Groundwater Processes
THE FOREIT DRIVER OF TAXABLE CONTRACTOR OF CHARACTER CONTRACTOR CO
2 N N Location near a groundwater divide or a headwater wetland
3 N N Wetland remains saturated for an extended time period with no additional water inputs
4 N N Wetland soils are organic 5 N N Wetland is within a wellhead protection area
5 N N Wetland is within a wellhead protection area

Wi	ldlifa Hahita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ob	eservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wi	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Υ	Frogs
FIS Lis	sn and Aqua st: direct ob	atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU3- located along a roadside ditch. WQ5- dense vegetation.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Abundant
Calamagrostis canadensis			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Populus balsamifera			PEM	Uncommon
Populus tremuloides			PEM	Commom
Trifolium pratense			PEM	Uncommon

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The florisitc integrity is low due to location within a mowed roadside ditch.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
Χ	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
X	Х				Agriculture – hay
					Agriculture – pasture
X	Х		Н	С	Roads or railroad
Х	Х		М	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		B. //	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
Χ	Χ		L	С	Cover of non-native and/or invasive species
	Χ		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, mowed roadside ditch
Human Use Values	Low value - located between a farm field and a road
Wildlife Habitat	Small ditch along roadside
Fish and Aquatic Life Habitat	No water present in wetland roadside has portions that remain saturated
Shoreline Protection	N/A
Flood and Stormwater Storage	Small wetland that holds runoff from road
Water Quality Protection	Vegetation may filter runoff from road
Groundwater Processes	Serves as groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Count	ty: Ashland	San	npling Date: <u>2019-09-26</u>		
Applicant/Owner: Enbridge						
Investigator(s): NTT/DGL	Section, T	ownship, Range: 045	N-004W-12			
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests La						
Soil Map Unit Name: Portwing-Herbster co						
<u> </u>	•	•				
Are climatic / hydrologic conditions on the site typical	•					
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology			in any answers in			
SUMMARY OF FINDINGS – Attach site i	map showing sampli	ng point locations,	transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Yes	140	the Sampled Area				
	No <u>√</u> wit	thin a Wetland?	Yes	No <u>√</u>		
Wetland Hydrology Present? Yes		es, optional Wetland Site	; ID:			
Remarks: (Explain alternative procedures here or in Sample recorded on a farm road ac associated wetland ditch.		off a gravel road	d. Area eleva	ated above the		
HYDROLOGY  Wetland Hydrology Indicators:		Sec	condary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is required; che	ck all that apply)		-			
	Water-Stained Leaves (B		Surface Soil Cracks (B6) Drainage Patterns (B10)			
	_ Aquatic Fauna (B13)	_	Moss Trim Lines (			
	_ Marl Deposits (B15)		Dry-Season Wate			
Water Marks (B1)	_ Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C8)			
	_ Oxidized Rhizospheres or			on Aerial Imagery (C9)		
	Presence of Reduced Iron		Stunted or Stress			
1	Recent Iron Reduction in		Geomorphic Posit			
	_ Thin Muck Surface (C7)		Shallow Aquitard			
Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remark		Microtopographic FAC-Neutral Test			
Field Observations:		<u> </u>	FAC-Neutral Test	. (D5)		
	Depth (inches):					
	Depth (inches):					
	Depth (inches):		ology Present?	Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	all assistants and decision	- in-markings) if available				
Describe Recorded Data (stream gauge, monitoring	weii, aeriai pnotos, previous	s inspections), if available	ə:			
Remarks:						
No wetland hydrology indicators we	ere observed.					

**VEGETATION** – Use scientific names of plants.

T. O (D )	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5		-		That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co		OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species0 x 3 =0
2				FACU species 2 x 4 = 8
				UPL species10 x 5 =50
3				Column Totals:12 (A)58 (B)
4				Prevalence Index = B/A = 4.83
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	4.0	\ <u>/</u>	LIDI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Bromus inermis			UPL	data in Remarks or on a separate sheet)
2. <u>Taraxacum officinale</u>			<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12		-		Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	vor	height.
Woody Vine Stratum (Plot size:30')	12	= 10(a) 00	vei	
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No✓
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s Sample on a farm access road; vegetar		rse.		

Sampling Point: wasa118\_u

SOIL Sampling Point: wasa118\_u

	cription: (Describe to	the depth				or confirm	the absence of inc	licators.)
Depth	Matrix			x Features		. 2	<b>-</b> .	5
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
				·				
Type: C=C	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix.
Hydric Soil  Histosol  Histic E  Black H  Hydroge  Stratifie  Deplete  Thick D  Sandy N  Sandy F  Strippec  Dark Su  Restrictive	Indicators:	(A11)	_ Polyvalue Belov	v Surface ce (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF .RR R, MI ) (LRR K )	R R, .RA 149B) , L)	Indicators for Pi  2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangan Piedmont Fie Mesic Spodie Red Parent I Very Shallov Other (Expla	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Re(S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) Rot (TA6) (MLRA 144A, 145, 149B) Material (F21) Robot Dark Surface (TF12) In in Remarks)  Pent? Yes No/
	re not sampled				ied util	ities. So	oils are assun	ned to be non-hydric



wasa118\_u\_E



wasa118\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Proiect	<u> </u>	City/Cou	nty: <u>Ash</u>	land		Sampling Date:	2019-09-26
Applicant/Owner: Enbridge	•							
Investigator(s): NTT/DGL								
Landform (hillslope, terrace, etc					-			
Subregion (LRR or MLRA): No.								
Soil Map Unit Name: Portw								
Are climatic / hydrologic conditi	•		•		•			
Are Vegetation, Soil								√ No
Are Vegetation, Soil								110
SUMMARY OF FINDING	35 – Attach Sit	te m	ap snowing sampi	ing poir	nt locatio	ons, transects	, important to	eatures, etc.
Hydrophytic Vegetation Prese	ent? Yes	✓		the Samp				
Hydric Soil Present?			_ 140			Yes <u>√</u>		
Wetland Hydrology Present?				yes, optior	nal Wetland	Site ID:		
Remarks: (Explain alternative Roadside ditch wetla	∍ procedures here c and that was	or in a	a separate report.) cently mowed at t	he time	of the	field evaluat	tion	
Troadside ditori wette	and that was	160	entily mowed at t	ine iiin	o or tine	ileiu evaluai	uon.	
HYDROLOGY								
Wetland Hydrology Indicato	ors:					Secondary Indica	ators (minimum of	two required)
Primary Indicators (minimum	of one is required; of	checl	k all that apply)			Surface Soil	Cracks (B6)	
Surface Water (A1)		_	Water-Stained Leaves (E	B9)		Drainage Pat		
High Water Table (A2)			Aquatic Fauna (B13)	,		Moss Trim Li		
Saturation (A3)			Marl Deposits (B15)			Dry-Season	Water Table (C2)	
Water Marks (B1)		_	Hydrogen Sulfide Odor (	(C1)		Crayfish Burr	rows (C8)	
Sediment Deposits (B2)			Oxidized Rhizospheres	on Living F	Roots (C3)	Saturation Vi	sible on Aerial Im	nagery (C9)
Drift Deposits (B3)			Presence of Reduced Iro	on (C4)		Stunted or St	tressed Plants (D	1)
Algal Mat or Crust (B4)			Recent Iron Reduction in	n Tilled So	ils (C6)	✓ Geomorphic	Position (D2)	
Iron Deposits (B5)			Thin Muck Surface (C7)			Shallow Aqui	itard (D3)	
Inundation Visible on Aer	ial Imagery (B7)	_	Other (Explain in Remark	ks)		Microtopogra	aphic Relief (D4)	
Sparsely Vegetated Cond	cave Surface (B8)					✓ FAC-Neutral	Test (D5)	
Field Observations:								
Surface Water Present?	Yes No _	✓	Depth (inches):					
Water Table Present?	Yes No _	✓	Depth (inches):					
Saturation Present?	Yes No _	✓	Depth (inches):		Wetland H	lydrology Presen	nt? Yes <u>√</u>	No
(includes capillary fringe)  Describe Recorded Data (stre	am gauge, monitor	rina v	vell, aerial photos, previou	us inspect	ions), if ava	ilable:		
2000001.000.000 20.00 (0	rani gaage, meme	9 .	.o., aona. priotos, provio	uoop oot	.00), a.a			
Remarks:								
Feature likely with a	saturated ny	/arc	ologic regime.					

**VEGETATION** – Use scientific names of plants.

T 00 (7) (7)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC:3 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6.				Providence to decrease the term
7				Prevalence Index worksheet:
·-				Total % Cover of: Multiply by:
0 11 101 1 01 1 (D) 1	0.0	= Total Co	ver	OBL species
Sapling/Shrub Stratum (Plot size: 15')				FAC species x2 = 60
1				FACU species 5 x 4 = 20
2			· <del></del>	UPL species 0 x 5 = 0
3				Column Totals: <u>52.5</u> (A) <u>125</u> (B)
4				
5				Prevalence Index = B/A = 2.38
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	vor	∠ 2 - Dominance Test is >50%
Harb Stratium (Blat airce 5'	0.0	= 10(a) 00	VEI	3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Agrostis gigantea	17.5	Υ	FACW	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Echinochloa crus-galli</u>		Y	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Setaria pumila</u>			FAC	
-		N		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Trifolium pratense</u>	_		FACU	be present, unless disturbed or problematic.
5. <u>Juncus effusus</u>		<u>N</u>	OBL	Definitions of Vegetation Strata:
6. <u>Scirpus hattorianus</u>	5	_N_	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7			<u> </u>	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.			·	Woody vines – All woody vines greater than 3.28 ft in
·		= Total Co	vor	height.
Washi Vina Chahum (Dishaira)	02.0	= 10(a) 00	VEI	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3			·	Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate		ous Dis		
Consisting of disturbance-oriented spec	cies. Bra	aun-Bia	nquet so	cale used.

Sampling Point: wasa119e\_w

SOIL Sampling Point: wasa119e\_w

Profile Desc	ription: (Describe t	o the depth	needed to docum	nent the i	ndicator	or confirm	the absence of inc	dicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
						-		
1								
	ncentration, D=Deple	etion, RM=R	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Hydric Soil I						_		roblematic Hydric Soils <sup>3</sup> :
Histosol		_	_ Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)		DD D MI	DA 440D)		e Redox (A16) (LRR K, L, R)
Black His	n Sulfide (A4)	_	_ Thin Dark Surfa _ Loamy Mucky N					Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L)
	Layers (A5)	_	Loamy Gleyed I			, <b>L</b> )	<del></del>	elow Surface (S8) (LRR K, L)
	Below Dark Surface		_ Loanly Gleyed in _ Depleted Matrix		)			urface (S9) (LRR K, L)
	rk Surface (A12)		Redox Dark Sui					nese Masses (F12) (LRR K, L, R)
	ucky Mineral (S1)	_	_ Depleted Dark S	, ,	7)			oodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)	_	Redox Depress		.,			c (TA6) (MLRA 144A, 145, 149B)
	edox (S5)	_		(. 0)				Material (F21)
	Matrix (S6)							v Dark Surface (TF12)
	face (S7) (LRR R, M	LRA 149B)					· ·	in in Remarks)
	, , , ,	,						,
3Indicators of	hydrophytic vegetati	on and wetla	and hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive L	ayer (if observed):							
Type:								
	phoc).		<del></del>				Hydric Soil Pres	ent? Yes <u>√</u> No
	:hes):						11,4	
Remarks:		مد میاما	41	f = 11   11   11	ند. امین	1:4:	المصمية مطلع مراطلا	side ditab Caila ava
								side ditch. Soils are
assumed	to be hydric b	pased or	n landscape	positio	n and o	dominai	nt vegetation.	



wasa119e\_w\_E



wasa119e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa119	09/26/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-004W-12</u>	Superior Coastal Plain		
	Superior Coastal Flairi		
Lat: <u>46.392586</u> Long: <u>-90.809397</u>	Watershed:		
-	LS12 Marengo River		
County: Ashland Town/City/Village: Marengo town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B, Portwing-Herbster complex, 0 to 6 percent slopes	Wetland Type(s):		
	PEM - Fresh wet meadow		
Field Verified:		moddon	
Soils were not sampled due to the potential for	Wetland Size:	Wetland Area Impacted	
buried utilities within the roadside ditch.	0.17	0.17	
buriod diminos within the readolae ditori.	Vegetation:	<u> </u>	
	Plant Community D	Asscription(s):	
Hydrology:		wet meadow community	
The wetland is seasonally saturated based on		•	
•		roadside ditch and dominated	
FAC-Neutral test and geomorphic position	by non-native sp	ecies.	
indicators.			

# SITE MAP

#### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
	N	N	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	14/ (	147	Storm and Floodwater Storage
1	N	N	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
-			
6	N	N	Impervious surfaces cover >10% of land surface within the watershed  Within a watershed with <10% wetland
7	N	N	
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N.I	N I	Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	ı NI	ı NI	Vegetated wetland associated with a lake or stream
	N	N	
5	Υ	Υ	Dense, persistent vegetation
6	Y N	Y N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
6 7	Y N N	Y N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
6 7 8	Y N N	Y N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 9	Y N N	Y N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
6 7 8	Y N N	Y N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 9	Y N N N	Y N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
6 7 8 9 GW 1	Y N N N N	Y N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
6 7 8 9 GW 1 2	Y N N N N	Y N N N N N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
6 7 8 9 GW 1 2 3	Y N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
6 7 8 9 GW 1 2	Y N N N N	Y N N N N N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	servation, tracks, scat, other sign, type of habitat. hesting, migratory,
Observed	Potential	Species/Habitat/Comments
Υ	Y	Frogs Songbirds
	ı	Surganus
Fic	sh and Aqua	atic Life Habitat and Species Observations
		oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
_ NOO! 100	· Olonida	aparas, imaini
	<u>I</u>	<u>I</u>

Section 1 Comments (Refer to Section 1 numbers)

HU3- located along a roadside ditch. WQ5- dense reed canary grass throughout.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Traine Community Integrity (Circle)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Agrostis gigantea			PEM	Common
Echinochloa crus-galli			PEM	Common
Setaria pumila			PEM	Common
Trifolium pratense			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Scirpus hattorianus			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Floristic integrity is low due to the abundance of weedy species and location within a roadside location.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
X	X		M	С	Polluted runoff
					Pond construction
	Х		M	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
X	Х		Н	С	Roads or railroad
X	Х		M	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
Х	Х		М	С	Removal of herbaceous stratum – mowing,
^	^		IVI	C	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
			M	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
X	Х		L	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

W	Wetland is located along a mowed roadside and receives runoff from roadway.						

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity with high invasives cover along a roadside
Human Use Values	Low value - roadside ditch
Wildlife Habitat	Small ditch along roadside
Fish and Aquatic Life Habitat	No water present in wetland roadside has portions that remain saturated
Shoreline Protection	N/A
Flood and Stormwater Storage	Small basin within roadside ditch that receives runoff from the road
Water Quality Protection	Vegetation filters runoff from roadway
Groundwater Processes	Serves as groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	_ Sampling Date: 2019-09-26			
Applicant/Owner: Enbridge						
Investigator(s): NTT/DGL	Section, Township, Range: 045N-004W-12					
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Portwing-Herbster of						
Are climatic / hydrologic conditions on the site typic	•	•				
Are Vegetation ✓, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	e map showing sampling p	oint locations, transect	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sa	ampled Area				
	No ✓ within a	Wetland? Yes	No <u> √</u>			
		otional Wetland Site ID:	_			
Remarks: (Explain alternative procedures here o Sample point recorded in an agric	r in a separate report.)	ron harvostad prior to	the time of the field			
	Juliurai lielu. Soybeali G	op narvested prior to				
survey.						
HYDROLOGY						
Wetland Hydrology Indicators:			cators (minimum of two required)			
Primary Indicators (minimum of one is required; c						
	Water-Stained Leaves (B9)	Drainage P				
	Aquatic Fauna (B13)	Moss Trim Lines (B16) Dry-Season Water Table (C2)				
	Marl Deposits (B15)	· ·				
	<ul><li>Hydrogen Sulfide Odor (C1)</li><li>Oxidized Rhizospheres on Livir</li></ul>	Crayfish Bung Roots (C3) Saturation	Visible on Aerial Imagery (C9)			
	Presence of Reduced Iron (C4)		Stressed Plants (D1)			
1 — · · · ·	Recent Iron Reduction in Tilled	<del></del>	c Position (D2)			
	Thin Muck Surface (C7)	Shallow Aq				
	Other (Explain in Remarks)		raphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)			al Test (D5)			
Field Observations:						
Surface Water Present? Yes No	✓ Depth (inches):	_				
Water Table Present? Yes No	✓ Depth (inches):	_				
	✓ Depth (inches):	_ Wetland Hydrology Prese	ent? Yes No <u>√</u>			
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous insp	 ections), if available:				
	··g ·····, ·······					
Remarks: No wetland hydrology indicators v	were observed					
Two welland hydrology maioators v	word observed.					

**VEGETATION** – Use scientific names of plants.

Tree Charters (Diet circs 20)	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC:(A)
2		Total Number of Dominant
3	· —— —— ——	Species Across All Strata:(B)
4	·	Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
7		Total % Cover of: Multiply by:
	0.0 = Total Cover	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')		FACW species0 x 2 =0
		FAC species
1		FACU species0 x 4 =0
2		UPL species0 x 5 =0
3		Column Totals: 0 (A) 0 (B)
4		Prevalence Index = B/A =
5		
6	· —— —— ——	Hydrophytic Vegetation Indicators:
7	<del></del>	1 - Rapid Test for Hydrophytic Vegetation
	0.0 = Total Cover	2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )		3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1		data in Remarks or on a separate sheet)
2	<del></del>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4		be present, unless disturbed or problematic.
5		Definitions of Vegetation Strata:
6		
7		<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8		Sapling/shrub – Woody plants less than 3 in. DBH
9		and greater than or equal to 3.28 ft (1 m) tall.
10		Herb – All herbaceous (non-woody) plants, regardless
11		of size, and woody plants less than 3.28 ft tall.
12.		Woody vines – All woody vines greater than 3.28 ft in
	0 = Total Cover	height.
Woody Vine Stratum (Plot size: 30')		
1		
2		
3	· —— · —— · —— ·	Hydrophytic Vegetation
4	· —— —— ——	Present? Yes No✓_
	0.0 = Total Cover	
Remarks: (Include photo numbers here or on a separate Recently harvested agricultural field. Fi		n at the time of the field survey.

Sampling Point: wasa119\_u

SOIL Sampling Point: wasa119\_u

	cription: (Describe to	the depth				or confirm	the absence of inc	licators.)
Depth	Matrix			x Features		. 2	<b>-</b> .	5
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
				·				
Type: C=C	oncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix.
Hydric Soil  Histosol  Histic E  Black H  Hydroge  Stratifie  Deplete  Thick D  Sandy N  Sandy F  Strippec  Dark Su  Restrictive	Indicators:	(A11)	_ Polyvalue Belov	v Surface ce (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF .RR R, MI ) (LRR K )	R R, .RA 149B) , L)	Indicators for Pi  2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangan Piedmont Fie Mesic Spodie Red Parent I Very Shallov Other (Expla	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) Re(S7) (LRR K, L) Relow Surface (S8) (LRR K, L) Rese Masses (F12) (LRR K, L, R) Rodplain Soils (F19) (MLRA 149B) Rot (TA6) (MLRA 144A, 145, 149B) Material (F21) Robot Dark Surface (TF12) In in Remarks)  Pent? Yes No/
	re not sampled				ied util	ities. So	oils are assun	ned to be non-hydric



wasa119\_u\_E



wasa119\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-09-27
	State: WI Sampling Point: wasa120e_w
Investigator(s): NTT/DGL	Section, Township, Range: 045N-004W-12
	Local relief (concave, convex, none): Concave Slope (%): 0-2%
	02 Long: <u>-90.808563</u> Datum: <u>WGS84</u>
	o 6 percent slopes NWI classification:
	·
Are climatic / hydrologic conditions on the site typical for this time of y	
	tly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showin	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No	within a Watlando Waa / Na
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate rep Wet meadow located within a roadside ditch t	that extends into a hay field.
HYDROLOGY  Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) Water-Stained	<u> </u>
Guirace Water (A1) Water Stainer High Water Table (A2) Aquatic Faun	
Saturation (A3) Marl Deposits	
Water Marks (B1) Hydrogen Su	
Sediment Deposits (B2) Oxidized Rhiz	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
	Reduced Iron (C4) Stunted or Stressed Plants (D1)
	Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Su	
Inundation Visible on Aerial Imagery (B7) Other (Explain	
Sparsely Vegetated Concave Surface (B8)  Field Observations:	<u>✓</u> FAC-Neutral Test (D5)
Surface Water Present? Yes No _ ✓ _ Depth (inche	pc).
Water Table Present?  Yes No Depth (inche	
Saturation Present? Yes No _ ✓ Depth (inche	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks: Located within a roadside ditch.	
Located within a roadside ditch.	

**VEGETATION** – Use scientific names of plants.

Tree Christian (Diet einer 201	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC:2 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>80</u> x 1 = <u>80</u>
Sapling/Shrub Stratum (Plot size:)				FACW species15 x 2 =30
1.				FAC species0 x 3 =0
2				FACU species
3				UPL species 0 x 5 = 0
4				Column Totals: <u>95</u> (A) <u>110</u> (B)
5				Prevalence Index = B/A =1.16
6				Hydrophytic Vegetation Indicators:
7			-	✓ 1 - Rapid Test for Hydrophytic Vegetation
	0.0		vor	∠ 2 - Dominance Test is >50%
Harb Stratum (Plataina) 5'	0.0	= Total Co	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Calamagrostis canadensis	50	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Scirpus cyperinus		Y	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Phalaris arundinacea		NI	FACW	
4. Solidago gigantea		N	FACW	¹Indicators of hydric soil and wetland hydrology must
Online a least and a con-	_		OBL	be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			·	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11			·	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	95	= Total Co	ver	neight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate				
Dominated by bluejoint and reed canar	y grass.			

Sampling Point: wasa120e\_w

SOIL Sampling Point: wasa120e\_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix			x Features				
(inches)	Color (moist)	<u></u> %	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
	ncentration, D=Deple	etion, RM=Re	educed Matrix, MS	S=Masked	Sand Gra	ins.		.=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Black His Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) l Below Dark Surface rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, M hydrophytic vegetati	LRA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed I Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depress	ce (S9) ( <b>L</b> flineral (F1 Matrix (F2 (F3) face (F6) Surface (F ions (F8)	.RR R, ML 1) (LRR K, )	.RA 149B) L)	2 cm Muck Coast Prair 5 cm Muck Dark Surfac Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spoc Red Parent Very Shallo	(A10) (LRR K, L, MLRA 149B) rie Redox (A16) (LRR K, L, R) y Peat or Peat (S3) (LRR K, L, R) ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) t Material (F21) ow Dark Surface (TF12) lain in Remarks)
Type:	ayer (if observed):		_					
	:hes):						Hydric Soil Pres	sent? Yes <u>√</u> No
	e not sampled landscape po				dergro	und utili	ties. Soils ar	re assumed to be hydric



wasa120e\_w\_E



wasa120e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL		
File #: wasa120	Date of visit(s): 09/20/2019		
Location: PLSS: 045N-004W-12	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.39271498</u> Long: <u>-90.80868301</u>	Watershed: LS12 Marengo River		
County: Ashland Town/City/Village: Marengo town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B, Portwing-Herbster complex, 0 to 6 percent slopes	Wetland Type(s): PEM- fresh wet meadow		
Field Verified:			
Soils were not sampled due to the proximity of underground utilities.	Wetland Size: 0.07	Wetland Area Impacted 0.07	
	Vegetation: Plant Community Description(s):		
Hydrology: The feature is located within a roadside ditch, with a saturated hydrologic regime based on geomorphic position and FAC-Neutral test.	The wet meadow is located within a roadside ditch domianted by bluejoint and woolgrass.		

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

	SECTION 1: Functional Value Assessment								
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty						
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:						
2	N	N	Used for educational or scientific purposes						
3	Υ	Υ	Visually or physically accessible to public						
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation						
	- ' '	- 11	In or adjacent to RED FLAG areas						
5	N	N	List:						
6	N	N	Supports or provides habitat for endangered, threatened or special concern species						
7	IN	111	In or adjacent to archaeological or cultural resource site						
WH			Wildlife Habitat						
1	N	N	Wetland and contiguous habitat >10 acres						
2	N	N	3 or more strata present (>10% cover)						
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area						
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact						
5	N	N							
-	N	N	Occurs in a Joint Venture priority township						
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)						
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other						
			plans						
8	N	N	Part of a large habitat block that supports area sensitive species						
9	N	N	Ephemeral pond with water present > 45 days						
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates						
11	N	N	Seasonally exposed mudflats present						
12	N	Υ	Provides habitat scarce in the area (urban, agricultural, etc.)						
FA			Fish and Aquatic Life Habitat						
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake						
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates						
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system						
4	N	Υ	Vegetation is inundated in spring						
SP			Shoreline Protection						
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable						
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating						
2	NA	NA	water levels or high flows – if no, not applicable						
3	NA	NA	Densely rooted emergent or woody vegetation						
ST			Storm and Floodwater Storage						
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream						
2	N	N	Water flow through wetland is NOT channelized						
3	Y	Y	Dense, persistent vegetation						
4	N	N	Evidence of flashy hydrology						
5	Y	Y	Point or non-point source inflow						
6	N	N	Impervious surfaces cover >10% of land surface within the watershed						
7	N	N	Within a watershed with <10% wetland						
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event						
WQ	IN	IN	Water Quality Protection						
	N.I	\/	Provides substantial storage of storm and floodwater based on previous section						
1	N	Y	Basin wetland or constricted outlet						
2	Y	Y							
3	N	N	Water flow through wetland is NOT channelized						
4	N	N	Vegetated wetland associated with a lake or stream						
5	Y	Y	Dense, persistent vegetation						
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth						
7			Stormwater or surface water from agricultural land is major hydrology source						
	Υ	Υ							
8	N	N	Discharge to surface water						
9			Discharge to surface water  Natural land cover in 100m buffer area < 50%						
	N	N	Discharge to surface water						
9	N	N	Discharge to surface water  Natural land cover in 100m buffer area < 50%						
9 GW 1	N Y	N Y	Discharge to surface water  Natural land cover in 100m buffer area < 50%  Groundwater Processes  Springs, seeps or indicators of groundwater present						
9 GW 1 2	N Y N	N Y N	Discharge to surface water  Natural land cover in 100m buffer area < 50%  Groundwater Processes  Springs, seeps or indicators of groundwater present  Location near a groundwater divide or a headwater wetland						
9 GW 1 2 3	N Y N N	N Y N N	Discharge to surface water  Natural land cover in 100m buffer area < 50%  Groundwater Processes  Springs, seeps or indicators of groundwater present  Location near a groundwater divide or a headwater wetland  Wetland remains saturated for an extended time period with no additional water inputs						
9 GW 1 2	N Y N	N Y N	Discharge to surface water  Natural land cover in 100m buffer area < 50%  Groundwater Processes  Springs, seeps or indicators of groundwater present  Location near a groundwater divide or a headwater wetland						

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	t: direct ob	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
liw	nter, etc.	
Observed	Potential	Species/Habitat/Comments
V	Y	Frogs
Y	Y	Songbirds
_		
Eic	h and Agus	atic Life Habitat and Species Observations
Lis	t: direct ob	pservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observad	Detential	On a singlitude that
Observed	Potential Y	Species/Habitat  Aquatic invertebrates
		A Agasta in anotato

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located along a roadside ditch WQ-5: dense reed canary grass throughout

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Train Seminarity integrity (energy						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Calamagrostis canadensis			PEM	Abundant
Scirpus cyperinus			PEM	Common
Phalaris arundinacea			PEM	Common
Solidago gigantea			PEM	Uncommon
Scirpus hattorianus			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is low based on location within a roadside ditch but is dominated by native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		M	С	Point source or stormwater discharge
X	Х		M	С	Polluted runoff
					Pond construction
	Х		L	С	Agriculture – row crops
X	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
Х	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			D.4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х			С	Removal of large woody debris
Х	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located along a roadside and receives associated runoff. The ditches have been mowed.								

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE						
Γ	Low	Medium	High	Exceptional	NA		
Floristic Integrity	$\checkmark$						
Human Use Values	<b>√</b>						
Wildlife Habitat	<b>√</b>						
Fish and Aquatic Life Habitat	<b>√</b>						
Shoreline Protection					<b>√</b>		
Flood and Stormwater Storage		<b>/</b>					
Water Quality Protection		<b>√</b>					
Groundwater Processes	<b>√</b>						

FUNCTION	RATIONALE
Floristic Integrity	Low diversity within a roadside ditch
Human Use Values	Low value - located along road
Wildlife Habitat	Small wetland within roadside and hay field
Fish and Aquatic Life Habitat	No water present in wetland roadside has portions that remain saturated
Shoreline Protection	N/A
Flood and Stormwater Storage	Small wetland holds runoff from roadside ditch and agriculture
Water Quality Protection	May provide some water filtration
Groundwater Processes	Serves as groundwater recharge

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	n Project	City/C	County: Ashl	and	Sampling Date: <u>2019-09-27</u>		
Applicant/Owner: Enbridge				State: W	Sampling Point: wasa120_u		
Investigator(s): NTT/DGL		Section	on, Township, I	Range: <u>045N-004</u>	-W-12		
Landform (hillslope, terrace, etc.): Ta	alf	lief (concave, c	onvex, none): None	Slope (%): <u>0-2%</u>			
				Datum: WGS84			
					assification:		
Are climatic / hydrologic conditions on	the site typical fo	or this time of year? Y	res <u>√</u> No	o (If no, explain	n in Remarks.)		
Are Vegetation, Soil,	or Hydrology	significantly distur	rbed? Ar	re "Normal Circumstan	ces" present? Yes No		
Are Vegetation, Soil, c	or Hydrology	naturally problema	atic? (If	needed, explain any a	inswers in Remarks.)		
SUMMARY OF FINDINGS -	Attach site m	ap showing sam	npling poin	t locations, trans	ects, important features, etc.		
Hydrophytic Vegetation Present?	Yes	No ✓	Is the Sampl				
Hydric Soil Present?	Yes	_ No <u></u> ✓	within a Wet	land? Yes _	No <u>√</u>		
Wetland Hydrology Present?  Remarks: (Explain alternative proce		_ No <u></u>	If yes, optiona	al Wetland Site ID:			
Recently cut hay field.							
HYDROLOGY  Wetland Hydrology Indicators:				Secondary	Indicators (minimum of two required)		
Primary Indicators (minimum of one	is required; check	( all that apply)			e Soil Cracks (B6)		
Surface Water (A1)		Water-Stained Leave			ge Patterns (B10)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burrows (C8)			
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizosphero Presence of Reduced					
Algal Mat or Crust (B4)		Recent Iron Reductio		Stunted or Stressed Plants (D1) Soils (C6) Geomorphic Position (D2)			
Iron Deposits (B5)		Thin Muck Surface (C		Shallow Aquitard (D3)			
Inundation Visible on Aerial Ima		Other (Explain in Rer	•	Microtopographic Relief (D4)			
Sparsely Vegetated Concave St	urface (B8)			FAC-Ne	eutral Test (D5)		
Field Observations:							
		Depth (inches):					
		Depth (inches):					
Saturation Present? Yes (includes capillary fringe)	No <u></u> ✓_	Depth (inches):	'	Wetland Hydrology P	resent? Yes No _✓		
Describe Recorded Data (stream ga	uge, monitoring w	vell, aerial photos, pre	evious inspection	ons), if available:			
Remarks:							
No wetland hydrology inc	dicators wer	re observed.					
,							

**VEGETATION** – Use scientific names of plants.

Trace Observers (Distriction 20)	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)			Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species5 x 3 =15
2				FACU species <u>92</u> x 4 = <u>368</u>
				UPL species10 x 5 =50
3				Column Totals:107 (A)433 (B)
4				Prevalence Index = B/A = 4.05
5				Hydrophytic Vegetation Indicators:
6			<del></del>	1 - Rapid Test for Hydrophytic Vegetation
7			-	2 - Dominance Test is >50%
	0.0	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	50	V	E4011	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Trifolium pratense</u>		Y	FACU	data in Remarks or on a separate sheet)
2. <u>Phleum pratense</u>		Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Poa pratensis</u>		N	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Medicago sativa</u>		N	UPL	be present, unless disturbed or problematic.
5. <i>Trifolium repens</i>	_ 5	N	<u>FACU</u>	Definitions of Vegetation Strata:
6. Ranunculus acris	5	N	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Taraxacum officinale</u>	2	N	<u>FACU</u>	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co		height.
Woody Vine Stratum (Plot size:30')	107	= 10ta1 0t	7001	
1				
2				
3			<del>-</del>	Hydrophytic Vegetation
4				Present? Yes No ✓
		= Total Co	over	
Remarks: (Include photo numbers here or on a separate Dominated by pasture grasses and clored)		cies.		

Sampling Point: wasa120\_u

SOIL Sampling Point: wasa120\_u

Profile Desc	cription: (Describe to	the dep				or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%		x Features		Loc <sup>2</sup>	Toyturo	Domarka
(inches)	Color (moist)	70	Color (moist)	%	Type'	LOC	<u>Texture</u>	Remarks
				· ——				
				· ——				- <u></u> -
<sup>1</sup> Type: C=C	oncentration, D=Deple	tion. RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil			Troubout manny m	·				for Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	v Surface	(S8) (LRF	R R.		luck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	pipedon (A2)		MLRA 149B)		(00) (2.11	,		Prairie Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surfa		.RR R. MI	RA 149B)		lucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky N					urface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			, ,		ue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	(A11)	Depleted Matrix					ark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Su					anganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F	7)		Piedmo	ont Floodplain Soils (F19) (MLRA 149B)
Sandy C	Gleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic S	Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
Sandy F	Redox (S5)						Red Pa	arent Material (F21)
Stripped	d Matrix (S6)						Very Sh	hallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, MI	LRA 149E	3)				Other (	Explain in Remarks)
	f hydrophytic vegetation	on and we	tland hydrology mus	t be prese	nt, unless	disturbed	or problematic	
Restrictive	Layer (if observed):							
Type:								
Denth (in	ches):						Hydric Soil	Present? Yes No✓
Remarks:	onco)		<del></del>					
	ro not campled	duo to	the provimit	of unc	doraro	und Litili	ition Soile	are assumed to be
						una utili	11165. 30115	are assumed to be
non-hydi	ric based on lar	ndscap	e position an	d vege	tation.			



wasa120\_u\_E



wasa120\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/County: Ashland Sampling Date	: <u>2019-09-27</u>		
Applicant/Owner: Enbridge State: WI Sampling Po			
Investigator(s): NTT/DGL Section, Township, Range: 045N-004W-12			
Landform (hillslope, terrace, etc.): <u>Depression</u> Local relief (concave, convex, none): <u>Concave</u> SI			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.392799 Long: -90.805831 Date			
Soil Map Unit Name: <u>Udorthents, ravines and escarpments, 25 to 60 percent slopes</u> NWI classification: <u>R4SB</u>			
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ _ No (If no, explain in Remarks.)			
Are Vegetation, Soil, or Hydrology significantly disturbed?	/ No		
	<u>√</u> NU		
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important	eatures, etc.		
Hydrophytic Vegetation Present? Yes <u>✓</u> No Is the Sampled Area			
Hydric Soil Present? Yes ✓ No within a Wetland? Yes ✓ No			
Wetland Hydrology Present?   Yes✓_ No   If yes, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate report.) Wet meadow located along a perennial stream and at the base of a steep hill. Includes pa	tches of		
meadow willow throughout the wetland complex.	Itorios or		
Thousand the world to the training to the trai			
HYDROLOGY			
Wetland Hydrology Indicators:  Secondary Indicators (minimum of the control of th	of two required)		
Primary Indicators (minimum of one is required; check all that apply)  Surface Soil Cracks (B6)	il two required,		
Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10)			
Surface Water (AT) Water-stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)			
Negative Factor (A2) Addate Factor (B15) Negative (C2) Negative (C2) Negative (C2) Negative (B15) Dry-Season Water Table (C2)			
Water Marks (B1) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)	.,		
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (I			
Algal Mat or Crust (B4)  Recent Iron Reduction in Tilled Soils (C6)  Geomorphic Position (D2)	<i></i>		
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)			
Field Observations:			
Surface Water Present? Yes No _ ✓ Depth (inches):			
Water Table Present? Yes No _✓ Depth (inches):			
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes / (includes capillary fringe)	No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Describe.			
Remarks:   Located within a floodplain; drift deposits present in vicinity of the waterbody feature.			
Looding William a noospiam, and copromise processing in the many of the many o			

**VEGETATION** – Use scientific names of plants.

•	S.			Sampling Point: wasa121e_v
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
451	0.0	= Total Co	over	OBL species <u>55</u> x 1 = <u>55</u>
Sapling/Shrub Stratum (Plot size: 15')	_	<b>V</b>	E 4 0 1 4 /	FACW species x 2 = 20 FAC species 0 x 3 = 0
1. <u>Salix petiolaris</u>				FACU species 0 x 4 = 0
2				UPL species0 x 5 =0
3				Column Totals:65 (A)75 (B)
4				Prevalence Index = B/A =1_15
5				
6				Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
7				Trapid Test to Tryatophytic Vegetation     2 - Dominance Test is >50%
F!	5	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: <u>5'</u> ) 1. <i>Scirpus hattorianus</i>	_50.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Equisetum pratense</u>			FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Scirpus cyperinus			OBL	1
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6	_			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	_			at breast height (DBH), regardless of height.
8		-		Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-		
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	00		wor	
	60	= Total Co	ovei	
Woody Vine Stratum (Plot size:30')				
1				
1 2				
1				Hydrophytic
1 2				

SOIL Sampling Point: wasa121e\_w

Profile Des	cription: (Describe	to the dep	th needed t	o docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features	1	. 2	_	
(inches)	7.5YR 3/2	<u>%</u>	7.5YR		<u>%</u> 10	Type'	Loc <sup>2</sup>	Texture SL	Remarks
	'	· ·	1.51K	0/0	_10_		IVI		
8-20	7.5YR 4/3	100						SCL	
-					-				
¹Type: C=C	concentration, D=Dep	letion, RM	=Reduced M	latrix, MS	=Masked	Sand Gr	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:							Indicators	for Problematic Hydric Soils <sup>3</sup> :
Histoso	l (A1) pipedon (A2)		-	ue Belov ( <b>A 149B</b> )	v Surface	(S8) ( <b>LR</b> I	R R,		luck (A10) (LRR K, L, MLRA 149B)
	istic (A3)			,		.RR R, M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> ) lucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
Hydroge	en Sulfide (A4)		Loamy	Mucky M	lineral (F1	I) (LRR K		Dark Si	urface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	o (A11)		Gleyed Ned Matrix	Matrix (F2	)			ue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L)
	ark Surface (A12)	5 (A11)			face (F6)				anganese Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Deplete	ed Dark S	Surface (F	7)		Piedmo	ont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox	Depressi	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)								arent Material (F21) hallow Dark Surface (TF12)
	urface (S7) (LRR R, N	ILRA 149	3)						Explain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic vegetat	ion and w	etland hydrol	ogy mus	t be prese	ent, unles	s disturbed	or problematic	
Restrictive	Layer (if observed):								
Type:									
	ches):							Hydric Soil	Present? Yes <u>√</u> No
Remarks:	oncentrations	nrasan	t in ton s	oil lav	ωr.				
INGUOX C	oncentiations	preseri	t iii top s	on lay	CI.				



wasa121e\_w\_E



wasa121e\_w\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloca	ation Project	City/C	County: Ashlar	nd	Sampling Date: 2019-09-27		
	•				Sampling Point: wasa121s_w		
Investigator(s): NTT/DGL							
					Slope (%): <u>0-2%</u>		
					Datum: WGS84		
Soil Map Unit Name: <u>Udorthe</u>							
Are climatic / hydrologic conditio		•	•	•			
· -		-			oresent? Yes ✓ No		
Are Vegetation, Soil							
SUMMARY OF FINDINGS	5 – Attach site	map showing san	npling point l	ocations, transects	, important features, etc.		
Hydrophytic Vegetation Presen	nt? Yes <u></u> ✓	′ No	Is the Sampled				
Hydric Soil Present?		′ No	within a Wetlar	nd? Yes <u>√</u>	No		
Wetland Hydrology Present?		No	If yes, optional \	Wetland Site ID:			
Remarks: (Explain alternative The wetland is a shru	procedures here or	in a separate report.) iated with a nere	ennial stream	n that meanders	through a steep		
ravine. Surrounding u		•			Ŭ .		
Tavino. Cancariang	apiana vogoto	and it inalling ap	opio irodo ar	ia coattorea grac	000.		
HYDROLOGY							
Wetland Hydrology Indicator				-	tors (minimum of two required)		
Primary Indicators (minimum of							
Surface Water (A1)		Water-Stained Leave					
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)	lor (C1)		Water Table (C2)		
Water Marks (B1) Sediment Deposits (B2)		<ul><li>Hydrogen Sulfide Od</li><li>Oxidized Rhizospher</li></ul>		Crayfish Burn	sible on Aerial Imagery (C9)		
✓ Drift Deposits (B3)		Presence of Reduce	_		tressed Plants (D1)		
Algal Mat or Crust (B4)		<ul><li>Recent Iron Reduction</li></ul>					
Iron Deposits (B5)		Thin Muck Surface (0		Shallow Aqui			
Inundation Visible on Aeria		Other (Explain in Rer		Microtopogra			
Sparsely Vegetated Conca			namo)	FAC-Neutral			
Field Observations:	200			<u> </u>			
Surface Water Present?	Yes No _ <b>✓</b>	Depth (inches):					
		Depth (inches):					
Saturation Present?	Yes No <u></u>	Depth (inches):	We	etland Hydrology Presen	t? Yes <u>√</u> No		
(includes capillary fringe)  Describe Recorded Data (streat	m gauge monitorin	a well perial photos pre	vious inspections	) if available:			
Describe Necorded Data (strea	in gauge, monitorin	g well, aeriai priotos, pre	vious irispections	n, ii avaliabic.			
Remarks:	uith a parappi	al waterbady for	tura raaba	rae budreleau			
Feature associated w	nın a perenni	ai waterbody lea	ature, rechai	ge riyarology.			

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC:4 (A)
3				Total Number of Dominant Species Across All Strata: 4 (B)
				(,,
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
1.		= Total Co		
Sapling/Shrub Stratum (Plot size: 15' )		- Total Co	vei	FACW species 90 x 2 = 180
1. Salix petiolaris	50	Y	FACW	FAC species x 3 =
2				FACU species0 x 4 =0
3				UPL species0 x 5 =0
4				Column Totals:100 (A)190 (B)
5				Prevalence Index = B/A =1.90
6				Hydrophytic Vegetation Indicators:
7				
		= Total Co		✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )		- rotar 00	VOI	3 - Prevalence Index is ≤3.0¹
1. Phalaris arundinacea	_20	Υ	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Solidago gigantea	15	Y	<b>FACW</b>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Scirpus hattorianus</u>		Y	OBL	1
4. Impatiens capensis			<b>FACW</b>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	_50	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2.				
3				Hydrophytic
4				Vegetation           Present?         Yes/ No
	0.0	= Total Co	ver	1.000.II.
Remarks: (Include photo numbers here or on a separate sep		e groun	d layer.	

Sampling Point: wasa121s\_w

SOIL Sampling Point: wasa121s\_w

Profile Desc	cription: (D	escribe t	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth		Matrix	0/	0-1		x Features		12	T	Days and a	
(inches)	Color (r		4.00	Color (n	10IST)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
0-5	7.5YR		100						SL	<del></del>	
5-20	<u>5YR</u>	3/2	90	7.5YR	6/6	_10_	<u>C</u>	_M_	SCL	Prominent redox	
<sup>1</sup> Type: C=C	oncentration	ı, D=Depl	etion, RM	=Reduced N	latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil									Indicators	s for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1) pipedon (A2)	١		-	lue Belov RA 149B)	w Surface	(S8) ( <b>LR</b> I	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) : Prairie Redox (A16) ( <b>LRR K, L, R</b> )	
	istic (A3)	)			- /		.RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A				-	/lineral (F1		(, L)		Surface (S7) (LRR K, L)	
	d Layers (A5 d Below Dar		Δ(Δ11)		Gleyed I ed Matrix	Matrix (F2)	)			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)	
-	ark Surface		,,,,,			rface (F6)				Manganese Masses (F12) (LRR K, L, R)	
	Mucky Miner					Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matri: Redox (S5)	x (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6)									Shallow Dark Surface (TF12)	
Dark Su	ırface (S7) (I	LRR R, M	ILRA 149	<b>B</b> )					Other	(Explain in Remarks)	
<sup>3</sup> Indicators o	f hydrophytic	c vegetat	ion and w	etland hydro	logy mus	st be prese	ent, unles	s disturbed	or problemati	ic.	
Restrictive		_		,	- 07	· ·			·		
Type:											
	ches):								Hydric Soi	I Present? Yes No	
Remarks:		4:		4 41	المدريما			:			
Redox c	oncentra	แบกรา	preser	i inroug	nout tr	ne boll	om so	ıı ıayer.			



wasa121s\_w\_E



wasa121s\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL			
File #: wasa121	Date of visit(s): 09/27/2019			
Location: PLSS: <u>045N-004W-12</u>	Ecological Landsca Superior Coastal Plain	ape:		
Lat: 46.393036 Long: -90.805724	Watershed: LS12 Marengo River			
County: Ashland Town/City/Village: Marengo town				
SITE DESCRIPTION	Т			
Soils:	WWI Class:			
Mapped Type(s):	N/A			
92F, Udorthents, ravines and escarpments, 25 to 60 percent slopes Field Verified:	Wetland Type(s): PSS- Shrub-Carr, PEM- Fresh wet meadow			
1		T		
Series not verified. Within the emergent and shrub components, soils were sandy loam above	Wetland Size: 0.39	Wetland Area Impacted 0.39		
sandy clay loam.	Vegetation: Plant Community Description(s):			
Hydrology: The feature is associated with a perennial stream that meanders through a steep ravine. The hydrologic regime is saturated with recharge hydrology.	The wetland is a comeadow communities shrub component of	omplex that includes a wet ty dominated by bulrushes and a dominated by meadow willow with inated by reed canary grass		

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	Ν	Ν	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	Ν	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	Υ	Y	
7	Ν	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Υ	Υ	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Υ	Υ	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	Y	Y	Evidence of flashy hydrology
5	N N	N	Point or non-point source inflow
6			Impervious surfaces cover >10% of land surface within the watershed
-	N	N	
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Y	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	Υ	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4			Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
ິນ	N	N	rvenanu is within a weilileau protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	t: direct ob	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
WII	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Songbirds
Fis	h and Aqua	atic Life Habitat and Species Observations
LIS	at: airect on	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Frogs

Section 1 Comments (Refer to Section 1 numbers)

ST-4: drift deposits present throughout the wetland WQ-5: dense meadow willow throughout HU-3: located nearby a major roadway

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix petiolaris			PSS, PEM	Abundant
Phalaris arundinacea			PSS	Common
Solidago gigantea			PSS	Common
Scirpus hattorianus			PSS, PEM	Common
Impatiens capensis			PSS	Uncommon
Scirpus cyperinus			PEM	Uncommon
Equisetum pratense			PEM	Uncommon
		-		
		-		
		-		
		-		
		1		
		-		
	+	+		
	+	+		
		1		

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The floristic integrity is moderate throughout as it is generally intact and dominated by native species but with some invasive species cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
71100 (7171)			20101	Troquonoy	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
Х	Х		М	С	Agriculture – pasture
	X		M	C	Roads or railroad
Х	X		Н	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located within a ravine along a power line corridor. The surrounding area is used for agriculture, ar	nd a
oadway is present nearby.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Generally low diversity with some invasive species
Human Use Values	Low value - located along a power line corridor
Wildlife Habitat	Located near a frequently used road within a stream corridor with interspersion of habitat types
Fish and Aquatic Life Habitat	Associated with a perennial stream, standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Emergent component is located within a floodplain, basin wetland
Water Quality Protection	Dense vegetation in areas, associated with perennial stream
Groundwater Processes	Majority of input is from precipitation events

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-09-27		
Applicant/Owner: Enbridge					
Investigator(s): NTT/DGL	Section, Tow	nship, Range: <u>045N-004W</u>	-12		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.393093	Long: -90.805898	Datum: WGS84		
Soil Map Unit Name: <u>Udorthents, ravines a</u>	and escarpments 25 to 60	) percent slopes NWI classi	fication:		
Are climatic / hydrologic conditions on the site typi					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach sit	te map showing sampling	point locations, transect	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the	Sampled Area			
		a Wetland? Yes	No <u></u>		
		optional Wetland Site ID:			
Remarks: (Explain alternative procedures here of The upland point is located on a	or in a separate report.)	natchy in tarms of tro	0.0000		
The upland point is located on a	steep side slope that is	s patchy in terms of the	e cover.		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)		
Primary Indicators (minimum of one is required;	check all that apply)	Surface Sc	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)		Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on L				
Drift Deposits (B3)	Presence of Reduced Iron (C				
Algal Mat or Crust (B4) Iron Deposits (B5)	<ul><li>Recent Iron Reduction in Till</li><li>Thin Muck Surface (C7)</li></ul>				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		Shallow Aquitard (D3) Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Kemarks)		al Test (D5)		
Field Observations:			ar rest (20)		
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):		ent? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitor	dan wall and almhatan mandawa i	anational if available			
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous ir	ispections), if available:			
Remarks:					
No wetland hydrology indicators	were observed.				

**VEGETATION** – Use scientific names of plants.

-	-			Sampling Point: <u>wasa121_</u> u		
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Populus tremuloides				Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)		
2. <u>Malus domestica</u>						
3			· -	Total Number of Dominant Species Across All Strata: 4 (B)		
4 <del>-</del>				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A/B		
5						
5				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
	30	= Total Co	ver	OBL species x 1 =		
Sapling/Shrub Stratum (Plot size: 15')				FACW species5		
1. <u>Picea glauca</u>	5	<u>      Y                              </u>	<u>FACU</u>	FAC species 25 x 3 = 75		
2				FACU species		
3				UPL species0 x 5 =0  Column Totals:80 (A)285 (B)		
4				Column Totals. <u>80</u> (A) <u>203</u> (B)		
5				Prevalence Index = B/A = 3.56		
3				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
· -		= Total Co		2 - Dominance Test is >50%		
F!		= Total Co	ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>		
Herb Stratum (Plot size: 5' )	00	<b>V</b>	E4011	4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
1. <u>Fragaria virginiana</u>		<u>Y</u>	FACU	Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  Definitions of Vegetation Strata:		
2. <u>Solidago canadensis</u>		<u>Y</u>	<u>FACU</u>			
3. <u>Poa pratensis</u>	5	N	<u>FACU</u>			
4. <u>Picea glauca</u>	5	N	<u>FACU</u>			
5. <u>Equisetum pratense</u>	_ 5	N	<b>FACW</b>			
s. <u>Maianthemum canadense</u>	5	N	<u>FACU</u>			
7				Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.		
8.						
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10.				Harb All barbassaus (non woody) plants, regardless		
				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11		-		Woody vines – All woody vines greater than 3.28 ft in		
12				height.		
	50	= Total Co	ver			
Woody Vine Stratum (Plot size:)						
1						
2						
3				Hydrophytic		
4				Vegetation Present? Yes No✓		
	0.0	= Total Co	ver	Tresent: TesNo		

SOIL Sampling Point: wasa121\_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth	Matrix	0/		x Features		1 2	Texture Remarks	
(inches)	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture Remarks SCL	
8-20	7.5YR 3/3						SIL	
0-20	1.511C 3/5	100						
				·				
				·				
				. ———				
				·				
				. ———				
		·						
		·		·				
<sup>1</sup> Type: C=C Hydric Soil	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matr Indicators for Problematic Hydric S	
Histoso		_	Polyvalue Belov	w Surface	(S8) ( <b>LRF</b>	RR,	2 cm Muck (A10) (LRR K, L, MLF	
Histic E	pipedon (A2)		MLRA 149B)	)			Coast Prairie Redox (A16) (LRR	K, L, R)
	istic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N				<ul><li>5 cm Mucky Peat or Peat (S3) (L</li><li>Dark Surface (S7) (LRR K, L)</li></ul>	RR K, L, R)
Stratifie	d Layers (A5)	-	Loamy Gleyed I	Matrix (F2		,	Polyvalue Below Surface (S8) (LI	
-	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Matrix Redox Dark Su				<ul><li>Thin Dark Surface (S9) (LRR K, I</li><li>Iron-Manganese Masses (F12) (L</li></ul>	
	Mucky Mineral (S1)	-	Depleted Dark S		7)		Piedmont Floodplain Soils (F19)	
-	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A	l, 145, 149B)
-	Redox (S5) d Matrix (S6)						<ul><li>Red Parent Material (F21)</li><li>Very Shallow Dark Surface (TF12)</li></ul>	2)
	urface (S7) (LRR R, N	ILRA 149B	)				Other (Explain in Remarks)	-,
<sup>3</sup> Indicators of	of hydrophytic vegetat	ion and wet	tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:							Hydric Soil Present? Yes	No. /
Depth (in Remarks:	ches):						riyunc son Fresent: Tes	NO <u>v</u>
	c soil indicator	s prese	nt.					
		·						



wasa121\_u\_E



wasa121\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/0	County: Ashland		Sampling Date: <u>2019-09-25</u>	
Applicant/Owner: Enbridge	•				Sampling Point: wase018e_w	
•					2	
					Slope (%): <u>0-2%</u>	
					Datum: WGS84	
					ation:	
Are climatic / hydrologic conditi	ŭ		•			
					resent? Yes ✓ No	
Are Vegetation, Soil						
					, important features, etc.	
	- Attach Site	map snowing sai			, important reatures, etc.	
Hydrophytic Vegetation Present?  Yes   ✓ No   Is the Sampled Area within a Wetland?					No	
Hydric Soil Present?		✓ No				
Wetland Hydrology Present?  Remarks: (Explain alternative		✓ No	If yes, optional Wetlan	nd Site ID:		
Wet meadow surrou			quaking aspen.			
HYDROLOGY						
Wetland Hydrology Indicato	ors:			Secondary Indica	tors (minimum of two required)	
Primary Indicators (minimum		neck all that apply)		-		
Surface Water (A1)	-	Water-Stained Leave		Drainage Patterns (B10)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lir		
Saturation (A3)		Marl Deposits (B15)		Dry-Season V		
Water Marks (B1)		Hydrogen Sulfide Od		Crayfish Burr		
Sediment Deposits (B2)		Oxidized Rhizospher	res on Living Roots (C3)	) Saturation Vis	sible on Aerial Imagery (C9)	
Drift Deposits (B3)		Presence of Reduce	d Iron (C4)	Stunted or St	ressed Plants (D1)	
Algal Mat or Crust (B4)		Recent Iron Reduction	on in Tilled Soils (C6)	✓ Geomorphic I	Position (D2)	
Iron Deposits (B5)		Thin Muck Surface (	C7)	Shallow Aquit		
Inundation Visible on Aer		Other (Explain in Re	marks)	✓ Microtopogra		
Sparsely Vegetated Cond	cave Surface (B8)			✓ FAC-Neutral	Test (D5)	
Field Observations:						
Surface Water Present?		Depth (inches):				
Water Table Present?		Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes No	/ Depth (inches):	Wetland	Hydrology Present	t? Yes No	
Describe Recorded Data (stre	am gauge, monitori	ng well, aerial photos, pre	evious inspections), if av	/ailable:		
Remarks:						
Seasonally saturate	d recharge we	etland.				
	Ü					

**VEGETATION** – Use scientific names of plants.

T. O (D	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	•	Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant
3	_			Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	0	= Total Co	ver	OBL species <u>95</u> x 1 = <u>95</u>
Sapling/Shrub Stratum (Plot size:)				FACW species5 x 2 =10
1				FAC species0 x 3 =0
2.				FACU species1 x 4 =4
				UPL species0 x 5 =0
3				Column Totals:101 (A)109 (B)
4				Prevalence Index = B/A =1.08
5				
6				Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Scirpus cyperinus	05	V	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			FACW	Problematic Hydrophytic Vegetation¹ (Explain)
2. Symphyotrichum lanceolatum				residentatio riyatophytio vegetation (Explain)
3. <u>Carex projecta</u>			FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Poa palustris</u>			FACW	be present, unless disturbed or problematic.
5. <u>Fragaria virginiana</u>	_ 1	<u>N</u>	<u>FACU</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7	_			at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4	_	= Total Co	· · · · · · · · · · · · · · · · · · ·	Present? Yes _ ✓ No
Remarks: (Include photo numbers here or on a separate		= Total Co	ver	
Red-osier dogwood and dark-green bu		e occas	ional in	the wetland.
Ç Ç				

Sampling Point: wase018e\_w

SOIL Sampling Point: wase018e\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix			Redox Features			. 2	<b>.</b>	5
(inches)	Color (moist) 10YR 2/2	100	Color (n	noist)	%	Type'	Loc <sup>2</sup>	Texture CI	Remarks
2-11	101R 2/2 10YR 2/1	98	5YR	3/4				CL	Prominent redox concentrations
11-16	101R 2/1	65	5YR	5/8	35	<u> </u>	N/I		Prominent redox concentrations
	101R 5/1	50	2.5YR		50	<u> </u>	M		1 TOTHINGTIC TOUGH CONCENTRATIONS
10-20	10111 3/1		<u> 2.011(</u>	7/0					
	_								
		-							
		-							
	_								
<sup>1</sup> Type: C=C	concentration, D=Dep	letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Locatio	n: PL=Pore Lining, M=Matrix.
Hydric Soil						(20) (1.7)		Indicators	s for Problematic Hydric Soils <sup>3</sup> :
Histoso Histic E	I (A1) pipedon (A2)			alue Belov R <b>A 149B</b> )	v Surface	(S8) (LRI	RR,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) : Prairie Redox (A16) ( <b>LRR K, L, R</b> )
Black H	istic (A3)						LRA 149B)	5 cm	Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)			-	/lineral (F Matrix (F2		., L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)
-	d Below Dark Surfac	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F	7)			Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)
Sandy (	Gleyed Matrix (S4)			Depress		,		Mesic	Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5) d Matrix (S6)								Parent Material (F21) Shallow Dark Surface (TF12)
	urface (S7) (LRR R, I	MLRA 149	<b>B</b> )						(Explain in Remarks)
<sup>3</sup> Indicators of	of hydrophytic vegeta	tion and w	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	ic.
	Layer (if observed)								
Type:	schoo):		<del></del>					Hydric Soi	I Present? Yes No
Remarks:	ches):							,	
	m over clay w	ith redo	x below	2 inch	nes.				



wase018e\_w\_E



wase018e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK			
File #: wase018	Date of visit(s): 09/25/2019			
Location: PLSS: 045N-004W-12	Ecological Landscape: Superior Coastal Plain			
Lat: <u>46.39036</u> Long: <u>-90.804777</u>	Watershed: LS12, Marengo River			
County: Ashland Town/City/Village: Marengo town				
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
480B Portwing-Herbster complex  Field Verified:	Wetland Type(s): PEM - wet mead	dow		
Series not verified. Soils were a clay loam over clay.	Wetland Size: 0.08	Wetland Area Impacted		
	Vegetation: Plant Community D	Description(s):		
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.		dominated by Scirpus		

SITE MAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Ν	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N N	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	
	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	.,		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	- 14	IN	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4			Evidence of flashy hydrology
<b>—</b>	N	N	Point or non-point source inflow
5	N	N	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	Ν	N	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
-	Y	Y	
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

HU-3: private land HU-4: adjacent to larger forested habitat block WQ-1: closed basin with recharge hydrology, dense herbaceous vegetation									
Lis	Idlife Habita it: direct ob nter, etc.	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,							
Observed	Potential	Species/Habitat/Comments							
	Y	Avian, mammal, insects							
Fis Lis	Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.								
Observed	Potential	Species/Habitat							

Section 1 Comments (Refer to Section 1 numbers)

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Abundant
Symphyotrichum lanceolatum			PEM	Uncommon
Carex projecta			PEM	Uncommon
Poa palustris			PEM	Uncommon
Fragaria virginiana			PEM	Uncommon
		-		
		1		

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised of native species with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		L	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is currently relatively undisturbed, adjacent to an abandoned orchard. The surrounding area is minimally
influenced by a roadway.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>√</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Native species, no invasives. Relatively low diversity
Human Use Values	Potential for hunting, limited access
Wildlife Habitat	Missing strata, adjacent to larger habitat block
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	
Flood and Stormwater Storage	Closed basin wetland with dense vegetation
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	shland	_ Sampling Date: 2019-09-25	
•				
Investigator(s): ARK/KDF				
	Local relief (concave, convex, none): None Slope (%):			
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Portwing-Herbster				
Are climatic / hydrologic conditions on the site typic	•	•		
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology			,	
SUMMARY OF FINDINGS – Attach sit	te map showing sampling po	oint locations, transect	s, important features, etc.	
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sa	mpled Area		
	110 <u></u>	-	No <u>√</u>	
		tional Wetland Site ID:		
Remarks: (Explain alternative procedures here of	or in a separate report.)			
Unmanaged apple orchard. This	sample point is shared w	ith wetland wase019	)e.	
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)	
Primary Indicators (minimum of one is required;	check all that apply)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa		
High Water Table (A2)	Aquatic Fauna (B13)			
Saturation (A3)	Marl Deposits (B15) Dry-Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery			
Drift Deposits (B3)	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled			
Iron Deposits (B5)	Thin Muck Surface (C7)	uitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)  Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	al Test (D5)	
Field Observations:	( Double (Sachas)			
	✓ Depth (inches):			
	✓ Depth (inches): ✓ Depth (inches):		ent? Yes No√_	
(includes capillary fringe)	V Deptil (inches).	Wettand Hydrology Frese	int: res NOv	
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous inspe	ections), if available:		
Remarks:				
No hydrologic indicators were ob	served.			

**VEGETATION** – Use scientific names of plants.

⁄₀ Cover	Species?	Indicator Status	Dominance Test wo				
5			Number of Dominant That Are OBL, FACW			0	(A)
			Total Number of Dom	ninant			, ,
						1	(B)
			Percent of Dominant	Species	3		
						0.00	(A/B
			Prevalence Index w	orkshee			
						Itiply by:	
0	= Total Co	ver	OBL species	0	x 1 =	0	
			FACW species	5	x 2 = _	10	_
			· ·				_
			· · · · · · · · · · · · · · · · · · ·		_		
			Column Totals:	123	(A) _	200	— (B)
			Prevalence Inde	ex = B/A	Α =	4.64	_
			Hydrophytic Vegeta	tion Inc	licators:		
			1 - Rapid Test fo	r Hydro	ohytic Ve	egetation	
			2 - Dominance T	est is >	50%		
90	Υ	UPI	4 - Morphologica	l Adapta	ations¹ (F	Provide sup	portin
	 N					,	
	N						
	NI		Indicators of hydric soil and wetland hydrology must				must
			Definitions of Vegetation Ottata.				
							amete
			Sanling/shrub – Wo	odv plar	nts less t	han 3 in D	BH
							<b>D</b>
			Herb – All herbaceou	ıs (non-	woody) p	lants, rega	ırdless
				oody vir	nes grea	ter than 3.2	28 ft in
125	= Total Co	ver	height.				
			Hydrophytic				
			Vegetation	<b>/</b>	N.		
	= Total Co		Present?	/es	NO	<u> </u>	
	0 90 10 10 5 5 5	0 = Total Co  0 = Total Co  90 Y  10 N  5 N  5 N  5 N	10 N FACU 10 N FACU 5 N FACW 5 N FACU 5 N FACU	Percent of Dominant That Are OBL, FACW  Prevalence Index w.  Total % Cover of OBL species	Percent of Dominant Species That Are OBL, FACW, or FACW Prevalence Index workshee Total % Cover of:  O = Total Cover  O = Tot	Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet:  Total % Cover of:  OBL species  O	Percent of Dominant Species That Are OBL, FACW, or FAC:  O

SOIL Sampling Point: wase018\_u

Depth (inches)
0-7 5YR 4/4 98 5YR 5/6 2 C M L Distinct redox concentrations
7-12 STR 4/0 100
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:  Histosol (A1)  Polyvalue Below Surface (S8) (LRR R,  2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4)
Depleted Below Dark Surface (A11)  Depleted Matrix (F3)  Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1)
Sandy Redox (S5)  Red Parent Material (F21)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):  Type:
Depth (inches): No _ ✓
Remarks:
Loam, with redox, over clay.



wase018\_u\_E



wase018\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/County: As	hland	Sampling Date: 2019-09-25			
	-			Sampling Point: wase019e_w			
				/-12			
				/e Slope (%): 0-2%			
				Datum: WGS84			
				sification:			
Are climatic / hydrologic conditi	ions on the site typical for	or this time of year? Yes✓	No (If no, explain in	n Remarks.)			
Are Vegetation, Soil	, or Hydrology	significantly disturbed?	Are "Normal Circumstance:	s" present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problematic?	(If needed, explain any ans	wers in Remarks.)			
SUMMARY OF FINDING	S - Attach site m	nap showing sampling po	int locations, transec	ets, important features, etc.			
Hydrophytic Vegetation Prese	ent? Yes ✓	No Is the Sar	npled Area				
Hydric Soil Present?		No within a V	Vetland? Yes	✓ No			
Wetland Hydrology Present?			ional Wetland Site ID:				
Remarks: (Explain alternative	e procedures here or in	a separate report.)					
	ssion within an u	inmanaged apple orch	ard. Feature share	s upland point			
wase018_u.							
HYDROLOGY							
Wetland Hydrology Indicato				dicators (minimum of two required)			
	of one is required; check	k all that apply)		oil Cracks (B6)			
Surface Water (A1)		Water-Stained Leaves (B9)		Patterns (B10)			
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)		Oxidized Rhizospheres on Living		N Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced Iron (C4)  Stunted or Stressed Plants (D1)  Present Iron Reduction in Tilled Soils (C6)  Comparable Resistant (D2)					
Algal Mat or Crust (B4) Iron Deposits (B5)		Recent Iron Reduction in Tilled Soils (C6)  ———————————————————————————————————					
Inundation Visible on Aer		_ Thin Muck Surface (C7) Shallow Aquitard (D3) Other (Explain in Remarks) Microtopographic Relief (D4)					
Sparsely Vegetated Cond		Other (Explain in Nemarks)	Microtope				
Field Observations:	Save Gariage (Bo)		<u> </u>	trui rest (56)			
Surface Water Present?	Yes No ✓	Depth (inches):					
Water Table Present?		Depth (inches):					
Saturation Present?		Depth (inches):		sent? Yes _ / No			
(includes capillary fringe)		well, aerial photos, previous inspe	ations) if available.				
Describe Recorded Data (stre	ani gauge, monitoring v	well, aeriai priotos, previous irispe	ctions), ii available.				
Remarks:							
Seasonally saturate	d recharge wetla	and.					

**VEGETATION** – Use scientific names of plants.

				Sampling Point: wase019e_v
Tree Stratum (Plot size:)			nt Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6		-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Co	over	OBL species <u>95</u> x 1 = <u>95</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 9 x 2 = 18
1. <u>Salix petiolaris</u>				FAC species1 x 3 =3 FACU species1 x 4 =4
2. <u>Acer rubrum</u>	1	N	_FAC_	UPL species x 5 =
3				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A = 1.13
6				Hydrophytic Vegetation Indicators:
7		-		✓ 1 - Rapid Test for Hydrophytic Vegetation
	6	= Total Co	over	<ul> <li>✓ 2 - Dominance Test is &gt;50%</li> <li>✓ 3 - Prevalence Index is ≤3.0¹</li> </ul>
Herb Stratum (Plot size: 5' )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Scirpus cyperinus</u>			OBL	data in Remarks or on a separate sheet)
2. <u>Carex projecta</u>		N	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Poa palustris</u>	1	N	<u>FACW</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Symphyotrichum lanceolatum			<u>FACW</u>	be present, unless disturbed or problematic.
5. <u>Solidago altissima</u>	1	N	<u>FACU</u>	Definitions of Vegetation Strata:
6		-		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	100	= Total Co	over	
Woody Vine Stratum (Plot size:)  1 2				
1				Hydrophytic
1 2	 			Hydrophytic Vegetation Present? Yes/_ No

SOIL Sampling Point: wase019e\_w

Profile Des	cription: (Describe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features	1	. 2	_		
(inches)	Color (moist) 10YR 2/1	<u>%</u> 98	Color (r	4/6	<u>%</u>	Type'	Loc <sup>2</sup>	Texture CI	Remarks  Prominent redex concentrations	
			5YR	4/6 4/6	5		IVI		Prominent redox concentrations  Prominent redox concentrations	
2-10		95				<u> </u>	IVI		Prominent redox concentrations	
10-20	10YR 2/1	_00_	<u>5YR</u>	4/6	<u>15</u>	<u> </u>	IVI			
		-			. ———					
					· <del></del>					
		-			· <del></del>					
			-		· <del></del>				-	
					-					
					· <del></del>					
	oncentration, D=Depl	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil									s for Problematic Hydric Soils <sup>3</sup> :	
Histoso	l (A1) pipedon (A2)			alue Belov <b>RA 149B</b> )	v Surface	(S8) ( <b>LRI</b>	RR,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )	
Black H	istic (A3)		Thin D	oark Surfa	ce (S9) (L		LRA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)				/lineral (F Matrix (F2		, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface	(A11)		ted Matrix		)		-	Dark Surface (S9) (LRR K, L)	
	ark Surface (A12)			Dark Su				Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mineral (S1) Gleyed Matrix (S4)			ted Dark S Depress	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Redox (S5)		\(\cdo)	СБСРІСЗЗ	10113 (1 0)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6) urface (S7) ( <b>LRR R, M</b>	LRA 149	3)					<ul><li>Very Shallow Dark Surface (TF12)</li><li>Other (Explain in Remarks)</li></ul>		
<sup>3</sup> Indicators o	of hydrophytic vegetati	on and w	etland hydro	ology mus	t be prese	ent, unles:	s disturbed	or problemati	C.	
	Layer (if observed):									
Type:	-l \-							Hydric Soi	I Present? Yes <u>√</u> No	
Remarks:	ches):							Tiyane ool	111030IK: 103 <u>-v</u> NO	
	y loam over cla	ay with	redox t	hrough	nout.					



wase019e\_w\_NE



wase019e\_w\_SW

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/ARK		
File #:	Date of visit(s):		
wase019	09/25/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-004W-12</u>	Superior Coastal Plain		
	Superior Coastal Flairi		
Lat: <u>46.390008</u> Long: <u>-90.804778</u>	Watershed:		
•	LS12, Marengo River		
County: Ashland Town/City/Village: Marengo town			
,			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B Portwing-Herbster complex	Wetland Type(s):		
J	PEM - fresh wet meadow		
Field Verified:			
Series not verified. Soils were a clay loam over	Wetland Size:	Wetland Area Impacted	
clay.	0.10	0.10	
oldy.	Vegetation:		
	Plant Community D	Description(s):	
Hydrology:		. , ,	
The hydrologic regime is seasonally saturated		lominated by Scirpus	
, , ,	cyperinus. Salix petiolaris is present within the		
with recharge hydrology.	wetland at <10%	coverage.	
		<u> </u>	

SITE MAP		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
		·	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	14	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	_		Occurs in a Joint Venture priority township
6	N	N	
0	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
. 1	N.	\ <u>'</u>	
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
J	IN	I IN	wonana is within a weilineau protection area

Section 1 Comments (Refer to Section 1 numbers) HU-1: relatively open area with adjacent forested areas that could potentially be used for hunting HU-4: adjacent to larger forested habitat block WH-2: missing strata, apple trees present within upland area surrounding the wetland WQ-1: closed basin with recharge hydrology, dense herbaceous vegetation Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian, mammal, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Thank Seminanty integrity (Silvio)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4 🗸	S3	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant [	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix petiolaris			PEM	Uncommon
Acer rubrum			PEM	Uncommon
Scirpus cyperinus			PEM	Abundant
Carex projecta			PEM	Uncommon
Poa palustris			PEM	Uncommon
Symphyotrichum lanceolatum			PEM	Uncommon
Solidago altissima			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised of native species with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
Alea (AA)			LEVEI	Trequency	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – low crops  Agriculture – hay
					Agriculture – pasture  Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	X		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is relatively undisturbed, located within an abandoned orchard. A road is just outside of the buffer area,
and likely does not impact the wetland.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity		<b>✓</b>						
Human Use Values	<b>√</b>							
Wildlife Habitat		<b>√</b>						
Fish and Aquatic Life Habitat					<b>√</b>			
Shoreline Protection					<b>√</b>			
Flood and Stormwater Storage		<b>√</b>						
Water Quality Protection		<b>√</b>						
Groundwater Processes	<b>√</b>							

FUNCTION	RATIONALE
Floristic Integrity	Native species, no invasives
Human Use Values	Potential for hunting, private land
Wildlife Habitat	Reduced/missing strata, adjacent to larger habitat block
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	
Flood and Stormwater Storage	Closed basin wetland with dense vegetation
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-09-25			
•			Sampling Point: wase018_u			
G	Section, Township, Range: 045N-004W-12					
		Local relief (concave, convex, none): None Slope (%): 0-2%				
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Portwing-Herbster						
Are climatic / hydrologic conditions on the site typi	• •	•				
Are Vegetation, Soil, or Hydrology						
	-					
Are Vegetation, Soil, or Hydrology			,			
SUMMARY OF FINDINGS – Attach sit	te map showing sampling	point locations, transect	ts, important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the	Sampled Area				
	110		No <u>√</u>			
		optional Wetland Site ID:				
Remarks: (Explain alternative procedures here	or in a separate report.)					
Unmanaged apple orchard. This	sample point is shared	with wetland wase019	9e.			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)			
Primary Indicators (minimum of one is required;	check all that apply)					
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage F				
High Water Table (A2)	Aquatic Fauna (B13)		Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	Dry-Seaso	n Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish B	urrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres on L	ving Roots (C3) Saturation	Visible on Aerial Imagery (C9)			
Drift Deposits (B3)	Presence of Reduced Iron (0	(24) Stunted or	Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction in Till		ic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7) Shallow Aquitard (D3)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		graphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutr	al Test (D5)			
Field Observations:	( Death (askes)					
	✓ Depth (inches):					
	✓ Depth (inches): ✓ Depth (inches):		ent? Yes No✓_			
(includes capillary fringe)	V Deptit (inches).	Welland Hydrology Fres	ent: resNO			
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous ir	spections), if available:				
Remarks:						
No hydrologic indicators were ob	served.					

**VEGETATION** – Use scientific names of plants.

<u>Free Stratum</u> (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:			
Malus domestica	5			Number of Dominant Species That Are OBL, FACW, or FAC:  ()	(A)		
				Total Number of Dominant	_ , ,		
				Species Across All Strata: 1	_ (B)		
				Percent of Dominant Species			
				That Are OBL, FACW, or FAC: 0.00	_ (A/B		
				Prevalence Index worksheet:			
				Total % Cover of: Multiply by:			
	0	= Total Co	ver	OBL species0 x 1 =0			
apling/Shrub Stratum (Plot size:)				FACW species5 x 2 =10	_		
				FAC species0 x 3 =0	_		
				FACU species 30 x 4 = 120	_		
				UPL species $90 \times 5 = 450$			
				Column Totals:125 (A)580_	(B)		
				Prevalence Index = B/A = 4.64			
				Hydrophytic Vegetation Indicators:			
				1 - Rapid Test for Hydrophytic Vegetation			
		= Total Co		2 - Dominance Test is >50%			
Herb Stratum (Plot size:5' )		. 0.0.		3 - Prevalence Index is ≤3.0 <sup>1</sup>			
Bromus inermis	90	Υ	UPL	<ul> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> <li>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)</li> </ul>			
Phleum pratense		N	FACU				
Solidago altissima		N	FACU				
. Agrostis gigantea		N	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must			
. Fragaria virginiana		N	FACU	be present, unless disturbed or problematic.			
Lotus corniculatus				Definitions of Vegetation Strata:			
				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.			
				Sapling/shrub – Woody plants less than 3 in. I	OBH		
				and greater than or equal to 3.28 ft (1 m) tall.	5511		
0				Herb – All herbaceous (non-woody) plants, reg	ardless		
1				of size, and woody plants less than 3.28 ft tall.			
2				Woody vines – All woody vines greater than 3	28 ft in		
	125	= Total Co	ver	height.			
/oody Vine Stratum (Plot size:)							
				Hydrophytic Vegetation Present? Yes No✓			
k			· ——				

SOIL Sampling Point: wase018\_u

Profile Desc	cription: (D	Describe 1	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth		Matrix		Redox Features				_		
(inches)	Color (I		<u>%</u>	Color (I		<u>%</u>	Type'	Loc <sup>2</sup>	Texture	Remarks  Distinct raday concentrations
		4/4	· ·	SIK	5/6		<u>C</u>	IVI		Distinct redox concentrations
7-12	<u>5YR</u>	4/0	100			·	-			
							-			
	-		-					•		
	-		-						-	
<sup>1</sup> Type: C=C			etion, RM:	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil				Б.		o ,	(OO) (I D)			s for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2	2)			alue Belo\ <b>RA 149B</b> )	w Surface	(S8) (LR	кк,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3)			Thin [	Dark Surfa	ice (S9) ( <b>L</b>		LRA 149B)	5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A					Mineral (F1		(, L)		Surface (S7) (LRR K, L)
	d Layers (A d Below Da		e (A11)		y Gleyed i ted Matrix	Matrix (F2 : (F3)	)			alue Below Surface (S8) (LRR K, L)  Dark Surface (S9) (LRR K, L)
Thick Da	ark Surface	(A12)	,	Redox	x Dark Su	rface (F6)			Iron-M	langanese Masses (F12) (LRR K, L, R)
-	Mucky Miner					Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)
-	Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5)						Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Parent Material (F21)			
Stripped Matrix (S6)					Shallow Dark Surface (TF12)					
Dark Su	rface (S7) (	LRR R, N	ILRA 1491	3)					Other	(Explain in Remarks)
<sup>3</sup> Indicators o	f hydrophyti	ic vegetat	ion and we	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.
Restrictive	Layer (if ob	served):		<del>-</del>						
Type:				<del></del>						
	ches):								Hydric Soil	I Present? Yes No _✓
Remarks:	ith rodo	v 0./0!	: clov							
Loam, w	ilii iedo.	x, ovei	ciay.							



wase018\_u\_E



wase018\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Proiect	t	City/C	ounty: Ash	nland		Sampling Date:	2019-09-25
Applicant/Owner: Enbridge	•							
Investigator(s): ARK/KDF								
Landform (hillslope, terrace, et								
Subregion (LRR or MLRA): No.								
Soil Map Unit Name: Portw								
Are climatic / hydrologic condit	•				•			
								( Na
Are Vegetation, Soil								<u> </u>
Are Vegetation, Soil	, or Hydrology		naturally problema	atic? (	(If needed, e	xplain any answer	s in Remarks.)	
SUMMARY OF FINDING	S - Attach sit	te m	nap showing sam	pling poi	nt locatio	ns, transects,	important f	eatures, etc.
Hydrophytic Vegetation Prese Hydric Soil Present?			No No	Is the Sam within a We		Yes <u></u> ✓	No	_
Wetland Hydrology Present?	Yes	✓	No	If yes, optio	nal Wetland	Site ID:		
Surrounding land us  HYDROLOGY	e/cover inclu	ides	s unmanaged a	apple orc	hard and	d upland fore	<b>∋st.</b>	
Wetland Hydrology Indicato	ore:					Secondary Indicat	tors (minimum c	of two required)
Primary Indicators (minimum		checl	k all that annly)			Surface Soil (		<u>ir two required)</u>
Surface Water (A1)	or one to required, t		Water-Stained Leave		Drainage Patterns (B10)			
High Water Table (A2)			Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)			Marl Deposits (B15)				Nater Table (C2	2)
Water Marks (B1)			Hydrogen Sulfide Ode	or (C1)		Crayfish Burr	ows (C8)	
Sediment Deposits (B2)			Oxidized Rhizosphere	es on Living F	Roots (C3)	Saturation Vis	sible on Aerial In	nagery (C9)
Drift Deposits (B3)			Presence of Reduced			Stunted or St		)1)
Algal Mat or Crust (B4)			Recent Iron Reductio			✓ Geomorphic I		
Iron Deposits (B5)	wiel las e e e e . (DZ)		Thin Muck Surface (C			Shallow Aquit		
Inundation Visible on Ael Sparsely Vegetated Con-	• • • •	_	Other (Explain in Ren	narks)		Microtopograp _ ✓ FAC-Neutral		
Field Observations:	Save Surface (Bo)					TAC-Neutiai	Test (D3)	
Surface Water Present?	Yes No	✓	Depth (inches):					
Water Table Present?			Depth (inches):					
Saturation Present?			Depth (inches):		Wetland H	lydrology Present	t? Yes <u>√</u>	No
(includes capillary fringe)  Describe Recorded Data (stre	nam gauga monitor	ring v	well agrial photos pro	vious inspect	tions) if avai	ilable:		
Describe Recorded Data (Site	ani gauge, monitor	iiig v	veii, aeriai priotos, pre	vious irispeci	lioris), ii avai	liable.		
Remarks:	d rooborgo u	ı atla	and					
Seasonally saturate	d recharge w	/elia	ariu.					

**VEGETATION** – Use scientific names of plants.

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC:1(A)
Total Number of Dominant
Species Across All Strata:1 (B)
Percent of Dominant Species
That Are OBL, FACW, or FAC: 100.00 (A/B)
Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL species <u>52</u> x 1 = <u>52</u>
FACW species2 x 2 =4
FAC species10 x 3 =30
FACU species 2 x 4 = 8
UPL species $0 \times 5 = 0$
Column Totals:
Prevalence Index = B/A =1.42
Hydrophytic Vegetation Indicators:
✓ 1 - Rapid Test for Hydrophytic Vegetation
∠ 2 - Dominance Test is >50%
4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Definitions of Vegetation Strata:
<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in
height.
Hydrophytic
Vegetation
Present? Yes ✓ No

SOIL Sampling Point: wase017e\_w

Profile Desc	cription: (Describe	to the de	pth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix				x Features	1	. 2	_	
(inches)	Color (moist)	<u>%</u>	Color (n		<u>%</u>	Type'	Loc <sup>2</sup>	Texture	Remarks
0-10	7.5YR 3/2		5YR	5/8	<u>15</u>	<u>C</u>	_M_	CL	Prominent redox concentrations
10-20	2.5YR 3/6	_98_	<u>2.5YR</u>	5/8	2	<u> </u>	IVI	<u> </u>	<u>Distinct redox concentrations</u>
						-			
			-						
					-				
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion RM	I–Reduced N	Natrix MS	S-Masked	Sand Gr	ains	<sup>2</sup> l ocation	n: PL=Pore Lining, M=Matrix.
Hydric Soil		iotion, reiv	i–rteadoca n	natrix, ivic	<u>J-Maskee</u>	ound of	uii 10.		s for Problematic Hydric Soils <sup>3</sup> :
Histosol					w Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			RA 149B)		DD D M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)				/lineral (F				Surface (S7) ( <b>LRR K, L</b> )
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2			Polyva	alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)		ed Matrix					Dark Surface (S9) (LRR K, L)
	ark Surface (A12)  Mucky Mineral (S1)				rface (F6) Surface (F	7)			Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)
Sandy C	Gleyed Matrix (S4)			Depress		,		Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)								Parent Material (F21)
	l Matrix (S6) rface (S7) ( <b>LRR R, N</b>	/ILRA 149	<b>B</b> )						Shallow Dark Surface (TF12) (Explain in Remarks)
	, , ,		,						
	f hydrophytic vegetat  Layer (if observed):		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati I	C.
Type:	Layer (ii observed).								
· · ·	ches):							Hydric Soi	I Present? Yes/ No
Remarks:								,	
	m over clay wi	th redo	OX.						



wase017e\_w\_N



wase017e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/ARK		
File #:	Date of visit(s):		
wase017	09/25/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-004W-12</u>	Superior Coastal Plain		
	Superior Coastal Flairi		
Lat: <u>46.388533</u> Long: <u>-90.80327</u>	Watershed:		
, and the second	LS12, Marengo River		
County: Ashland Town/City/Village: Marengo town			
,			
SITE DESCRIPTION	•		
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B Portwing-Herbster complex, 92F Udorthents, ravines and	Wetland Type(s):		
escarpments	PEM - fresh wet meadow		
Field Verified:	1 2111 110011 1101	moddon	
Series not verified. Soils were a clay loam over	Wetland Size:	Wetland Area Impacted	
clay.	0.53	0.53	
olay.	Vegetation:	1	
		Description(s):	
Hydrology:	Plant Community Description(s):		
The hydrologic regime is seasonally saturated	The herbaceous vegetation is dominated by		
, , , , , , , , , , , , , , , , , , , ,	Juncus effusus.		
with recharge hydrology; artificial wetland located			
within a ditch that receives inputs from culvert.			

# SITE MAP

#### **SECTION 1: Functional Value Assessment**

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty				Functional Value Assessment
2	HU	Y/N	Potential	
3	1	N	N	
N	2	Ν	N	Used for educational or scientific purposes
S	3	Υ	Υ	Visually or physically accessible to public
N N   List:	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N   List:	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	5	N	N	
In or adjacent to archaeological or cultural resource site   Wildlifer Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
WH	7			
1 N Y Welland and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover >50%(south) 75% (north) intact 5 N N Cocurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N N Supports or provides habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephremeral pond with water present > 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Welland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring P Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N N Storeline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N N Densely rosted emergent or woody vegetation 5 N Poensely rosted emergent or woody vegetation 5 N N Densely rosted emergent or woody vegetation 6 N N N Welfand is habitated with ≤10% wetland 7 N N N Wetlen on-point source inflow 8 N N Potential for englash hydrology 5 Y Y Point or non-point source inflow 9 Y Y Point or non-point source inflow 9 Y Y Point or non-point source inflow 9 Y Y Point or non-point source inflow 9 Y Y Point or non-point source inflow 1 N N Vegetated welland associated with a lake or stream 1 N N N Wetland to hold >10% of the runnoff from contributing area from a 2-year 24-hour storm event 1 N N N Wetland to hold >10% of the runnoff from	WH			
2	1	N	Υ	Wetland and contiguous habitat >10 acres
3	2			
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5 N N Cocurs in a Joint Venture priority township 6 N N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N N Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring 5 P Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 2 N Densely rooted emergent or woody vegetation 3 N Densely rooted emergent or woody vegetation 4 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Wet efflow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Guality Protection 1 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 Y Y Basin wetland associated with a lake or stream 9 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 Y Y Stormwater or surface water 9 Y Y Stormwater or surfa	$\overline{}$			
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8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Vegetation is inundated in spring SP Shoreline Protection 1 N N Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N D Pensely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 Y Y Stormwater or surface water from agricultural land is major hydrology source 8 N N N Discharge to surface water from agricultural land is major hydrology source 9 Y Y Nettand remains saturated for an extended time peri	7	Ν	N	
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7 Y Y Stormwater or surface water from agricultural land is major hydrology source  8 N N Discharge to surface water  9 Y Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	-			
8 N N Discharge to surface water 9 Y Natural land cover in 100m buffer area < 50%  Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
9 Y Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	-			
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		Y	Y	
2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\perp$	N	N	
4 N N Wetland soils are organic		Ν	N	
	3	Υ	Υ	Wetland remains saturated for an extended time period with no additional water inputs
5 N Wetland is within a wellhead protection area	4	N	N	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located alongside a public roadway WH-2: missing strata, part of ditch is mowed ST-2: channelized flow is restricted to the ditch area of the wetland ST-5: receives inputs from culvert located within the ditch Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Juncus effusus			PEM	Abundant
Ranunculus repens			PEM	Common
Trifolium pratense			PEM	Uncommon
Lycopus americanus			PEM	Uncommon
Poa palustris			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The plant community is comprised of vegetation expected within a highly disturbed wetland. Some invasive species are present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Χ	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Χ	Х		M	С	Point source or stormwater discharge
X	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
Χ	Х		M	С	Agriculture – hay
					Agriculture – pasture
	Х		М	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			D.4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Х		Н	С	Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is highly disturbed and influenced by roadway and agricultural stressors. A culvert is present within the wetland at the roadside ditch.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

## **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection			<b>√</b>		
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Highly disturbed, with some invasive species present
Human Use Values	Private land, unlikely to be used for recreational purposes
Wildlife Habitat	Missing strata, lack of habitat diversity
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	
Flood and Stormwater Storage	Channelized flow within ditch, closed basin
Water Quality Protection	See above. Receives runoff from agricultural land
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-25				
•							
Investigator(s): ARK/KDF Section, Township, Range: 045N-004W-12							
Landform (hillslope, terrace, etc.): Talf							
Subregion (LRR or MLRA): Northcentral Forests							
Soil Map Unit Name: Portwing-Herbster C							
Are climatic / hydrologic conditions on the site typic	•	•					
Are Vegetation, Soil, or Hydrology _							
Are Vegetation, Soil, or Hydrology _							
			,				
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	s, important features, etc.				
Hydrophytic Vegetation Present? Yes	140	npled Area					
Hydric Soil Present? Yes	NO <u> </u>	Vetland? Yes	No/				
Wetland Hydrology Present? Yes		onal Wetland Site ID:					
Remarks: (Explain alternative procedures here or Unmanaged apple orchard.	in a separate report.)						
Offitialiaged apple ofchard.							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil	l Cracks (B6)				
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)				
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim L	_ines (B16)				
	Marl Deposits (B15)	Dry-Season	Water Table (C2)				
	Hydrogen Sulfide Odor (C1)	Crayfish Bui					
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)				
1 — · · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)				
	Recent Iron Reduction in Tilled S		Position (D2)				
	Thin Muck Surface (C7)	Shallow Aqu					
	Other (Explain in Remarks)		raphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	Il Test (D5)				
	✓ Depth (inches):						
	✓ Depth (inches):						
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No ✓				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspec	ctions), if available:					
Remarks:							
No indicators of wetland hydrolog	y were observed.						

**VEGETATION** – Use scientific names of plants.

	<b>5.</b>			Sampling Point: <u>wase017_</u> u			
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
Malus domestica				Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
. <u>Picea glauca</u>			FACU				
3				Total Number of Dominant Species Across All Strata: 5 (B)			
·				Percent of Dominant Species			
5.				That Are OBL, FACW, or FAC: 40.00 (A/B			
5.							
_				Prevalence Index worksheet:			
7		= Total Co					
Continue/Chruth Ctratum (Diet aire) 15'		= 10(a) C0	vei	OBL species0 x 1 =0 FACW species10 x 2 =20			
Sapling/Shrub Stratum (Plot size: 15')	20	V		FAC species x3 = 60			
. Cornus racemosa				FACU species 28 x 4 = 112			
2. <u>Pinus strobus</u>				UPL species15 x 5 =75			
3				Column Totals: <u>73</u> (A) <u>267</u> (B)			
l				Prevalence Index = B/A = 3.66			
5							
5				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%			
	21	= Total Co	ver	3 - Prevalence Index is ≤3.0 <sup>1</sup>			
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting			
1. Bromus inermis	15	Y	UPL	data in Remarks or on a separate sheet)			
2. <u>Agrostis gigantea</u>	10	Y	<u>FACW</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)			
3. <u>Solidago altissima</u>	10	Y	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must			
4. <i>Phleum pratense</i>	5	N	<u>FACU</u>	be present, unless disturbed or problematic.			
s. <u>Fragaria virginiana</u>	5	N	<u>FACU</u>	Definitions of Vegetation Strata:			
6. <u>Lotus corniculatus</u>	5	N	<u>FACU</u>				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.			
8				Sapling/shrub – Woody plants less than 3 in. DBH			
9				and greater than or equal to 3.28 ft (1 m) tall.			
10.				Herb – All herbaceous (non-woody) plants, regardless			
11				of size, and woody plants less than 3.28 ft tall.			
12.				Woody vines – All woody vines greater than 3.28 ft in			
	50	= Total Co	ver	height.			
Woody Vine Stratum (Plot size:30')		_ rotal 00	· · · ·				
1							
2							
3				Hydrophytic Vegetation			
4		-		Present? Yes No ✓			
4	0	= Total Co					

SOIL Sampling Point: wase017\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth		Matrix	0/	0-1/-		x Features		12	Taratana	Description	
(inches)	Color (n		4.00	Color (r	noist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks	
0-8	2.5YR		100						CL		
8-20	<u>5YR</u>	4/6	_90_	5YR	5/8	_10_	<u>C</u>	_M_	C	<u>Distinct redox concentrations</u>	
						·					
										·	
<sup>1</sup> Type: C=C	oncentration	D-Deni	etion RM:	-Reduced I	Matrix MS	S-Masked	Sand Gr	ains	<sup>2</sup> l ocation	n: PL=Pore Lining, M=Matrix.	
Hydric Soil		, в-ворі	otion, rtivi	-110000001	viatrix, ivic	<u>J-Maskea</u>	ound or	dirio.		s for Problematic Hydric Soils <sup>3</sup> :	
Histoso						w Surface	(S8) ( <b>LR</b> I	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)	)			RA 149B)		DD D M	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )	
	en Sulfide (A	4)				/lineral (F1				Surface (S7) ( <b>LRR K, L</b> )	
	d Layers (A5				-	Matrix (F2	)		Polyva	alue Below Surface (S8) (LRR K, L)	
-	d Below Dar ark Surface (		e (A11)		ted Matrix	(F3) rface (F6)			Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
	Mucky Minera					Surface (F6)	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy (	Gleyed Matrix				Depress		,		Mesic Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )		
-	Redox (S5)								Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	d Matrix (S6) ırface (S7) ( <b>L</b>		ILRA 1491	3)						Snallow Dark Surface (TF12) (Explain in Remarks)	
	` , ,			•					· <del></del>		
		-	ion and we	etland hydro	ology mus	t be prese	ent, unles	s disturbed	or problemati	c.	
Type:	Layer (if ob	servea):									
'' -	iches).			<del></del>					Hvdric Soi	I Present? Yes No✓	
Remarks:	ches):								,		
No indica	ators of h	nydric	soils w	ere obs	served						



wase017\_u\_E



wase017\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	_ Sampling Date: <u>2019-10-03</u>		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb043e_w		
Investigator(s): SAM/KDG	Section, Township	, Range: <u>045N-004W-</u>	12		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3	388881	Long: <u>-90.803263</u>	Datum: WGS84		
Soil Map Unit Name: Portwing-Herbster complex					
Are climatic / hydrologic conditions on the site typical for this t	•				
Are Vegetation, Soil, or Hydrology sig					
Are Vegetation, Soil, or Hydrology nat		If needed, explain any answ			
SUMMARY OF FINDINGS - Attach site map sh	nowing sampling poi	nt locations, transect	s, important features, etc.		
Hydrophytic Vegetation Present?       Yes ✓       No         Hydric Soil Present?       Yes ✓       No         Wetland Hydrology Present?       Yes ✓       No	within a Wo	etland? Yes <u>√</u>	No		
Remarks: (Explain alternative procedures here or in a separ		nai Welland Sile ID.			
Wetland feature, likely artificial in origin, depressional arm associated with a road	_	or a nay note and			
HYDROLOGY					
Wetland Hydrology Indicators:			eators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that		Surface Soil Cracks (B6)			
	-Stained Leaves (B9)	<ul><li> Drainage Patterns (B10)</li><li> Moss Trim Lines (B16)</li></ul>			
	ic Fauna (B13)		u Water Table (C2)		
	Deposits (B15) gen Sulfide Odor (C1)	Dry-seasor Crayfish Bu			
	ed Rhizospheres on Living F		/isible on Aerial Imagery (C9)		
	nce of Reduced Iron (C4)		Stressed Plants (D1)		
	it Iron Reduction in Tilled So				
	luck Surface (C7)	Shallow Aq			
	(Explain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutra			
Field Observations:			, ,		
Surface Water Present? Yes ✓ No Depth	n (inches): 1				
Water Table Present? Yes No✓ Depth					
Saturation Present? Yes No ✓ Depth	n (inches):	Wetland Hydrology Prese	nt? Yes <u>√</u> No		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspect	ions) if available:			
Describe Recorded Data (stream gauge, monitoring well, ac	riai priotos, previous irispect	ioris), ii avallable.			
Remarks:	due te vecent velee		- h		
Some surface water observed but likely of	due to recent rains	. Feature appears t	o nave recnarge		
hydrology.					

Total Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)   Percent of Dominant Species That Are OBL, FACW, or FAC: 2.0 (B)   Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)   Prevalence Index worksheet:
Total Number of Dominant Species That Are OBL, FACW, or FAC:  Total Number of Dominant Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  Total % Cover of:  Total % Cover of:  Multiply by:  OBL species  50.0  FACW species  40.0  FAC species  0.0  FACU species  0.0  FACU species  0.0  Value  FACU species  0.0  Column Totals:  90.0  Meltiply by:  0.0  FACU species  1.0  Multiply by:  0.0  FACU species  1.0  Total % Cover of:  1.0  Multiply by:  0.0  FACW species  1.0  FACW species  1.0  FACU species  1.0  Multiply by:  0.0  FACW species  1.0  FACW species  1.0  FACU species  1.0  Multiply by:  0.0  FACW species  1.0  FACW species  1.0  FACW species  1.0  Multiply by:  0.0  FACW species  1.0  FACW species  1.0  1.0  FACW species  1.0  FACW species  1.1  Mydrophytic Vegetation Indicators:  1.1  Mydrophytic Vegetation Indicators:  1.2  Mydrophytic Vegetation Indicators:  1.3  Frevalence Index is ≤3.0¹  1.4  Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Percent of Dominant Species That Are OBL, FACW, or FAC:  Prevalence Index worksheet:  Total % Cover of:  OBL species  50.0  FACW species  40.0  FACU species  0.0  FACU species  0.0  Column Totals:  90.0  Multiply by:  Multipl
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by: OBL species 50.0 x 1 = 50.0 FACW species 40.0 x 2 = 80.0 FAC species 0.0 x 3 = 0.0 FACU species 0.0 x 4 = 0.0 UPL species 0.0 x 5 = 0.0 Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹ — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Prevalence Index worksheet:
Total % Cover of: Multiply by:  OBL species 50.0 x 1 = 50.0  FACW species 40.0 x 2 = 80.0  FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
OBL species 50.0 x 1 = 50.0  FACW species 40.0 x 2 = 80.0  FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
FACW species 40.0 x 2 = 80.0  FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
UPL species 0.0 x 5 = 0.0  Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Column Totals: 90.0 (A) 130.0 (B)  Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Prevalence Index = B/A = 1.4  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Hydrophytic Vegetation Indicators:   1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
∠ 2 - Dominance Test is >50%     ∠ 3 - Prevalence Index is ≤3.0¹     △ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
<del></del>
Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
W Definitions of Vegetation Strata:
W Tree – Woody plants 3 in. (7.6 cm) or more in diameter
at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH
and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in
height.
_
_
Hydrophytic   Vegetation
— Present? Yes No

SOIL Sampling Point: wasb043e\_w

Profile Desc	ription: (Describe t	o the depth	needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<del></del>								
								-
				<del></del>				
				<del></del>				-
- <u></u> -								
				· ——				_
1								-
	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.
Hydric Soil I						_		roblematic Hydric Soils <sup>3</sup> :
Histosol		_	_ Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		(A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149B)		DD D MI	DA 440D)		e Redox (A16) (LRR K, L, R)
Black His	n Sulfide (A4)	_	_ Thin Dark Surfa _ Loamy Mucky N					Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L)
	Layers (A5)		_ Loamy Gleyed I			, <b>L</b> )		elow Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	<ul><li>Depleted Matrix</li></ul>		,		·	urface (S9) (LRR K, L)
	rk Surface (A12)		_ Redox Dark Su					nese Masses (F12) (LRR K, L, R)
	ucky Mineral (S1)	_	_ Depleted Dark S		7)		_	oodplain Soils (F19) (MLRA 149B)
-	leyed Matrix (S4)	_	Redox Depress		,			ic (TA6) (MLRA 144A, 145, 149B)
-	edox (S5)			, ,				Material (F21)
Stripped	Matrix (S6)						Very Shallov	w Dark Surface (TF12)
Dark Sur	face (S7) (LRR R, M	LRA 149B)					✓ Other (Explanation)	ain in Remarks)
_								
	hydrophytic vegetati	on and wetla	and hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
Restrictive L	.ayer (if observed):							
Туре:			<u>—</u>					
Depth (inc	:hes):						Hydric Soil Pres	ent? Yes <u>√</u> No
Remarks:								
	e not excavate	ed due t	o the potenti	al for b	uried u	utilities.	Soils are ass	sumed hydric based on
	e position and							,
larraccap	o poortion and	Ovoran	vogotativo o	01011				



wasb043e\_w\_SW



wasb043e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/SAM			
File #: wasb043	Date of visit(s): 10/03/2019			
Location: PLSS: 045N-004W-12	Ecological Landscape: Superior Coastal Plain			
Lat: 46.389013 Long: -90.803337  County: Ashland Town/City/Village: Marengo town	Watershed: LS12, Marengo River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
480B Portwing-Herbster complex	Wetland Type(s): PEM - fresh wet meadow			
Field Verified: Series not verified. Soils were not sampled due to	Wetland Size:	Wetland Area Impacted		
the proximity of potential underground utilities within the ditch.	Vegetation: Plant Community Description(s): The dominant herbaceous vegetation is Scirpus cyperinus and Juncus effusus.			
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.				

 SITE MAP

#### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5		N N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	N	N	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Ϋ́	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	V	\/	Provides substantial storage of storm and floodwater based on previous section
	Y	Y	Basin wetland or constricted outlet
2	Y	Y	
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Υ	Υ	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	<u></u>		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
U	I N	l IN	Troduction to within a wominous protocitori sirca

HU-3: located alongside a public roadway WH-10: potential for standing water after precipitation events
ST-2: although located alongside roadway, wetland extends further into land parcel ST-5: likely inputs from adjacent roadway and agriculture field Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Herpetofauna, small mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Juncus effusus			PEM	Common
Scirpus cyperinus			PEM	Common
Carex annectens			PEM	Common
Symphyotrichum lanceolatum			PEM	Common
Agrostis gigantea			PEM	Common
Poa palustris			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of plant community expected within a disturbed roadside ditch, with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` '					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		M	С	Point source or stormwater discharge
Х	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		M	С	Agriculture – hay
					Agriculture – pasture
X	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	Х			U	Removal of herbaceous stratum – mowing,
	^		L	U	grading, earthworms, etc.
	Х		L	U	Removal of tree or shrub strata – logging,
	^		L	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Χ		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located alongside a road and is likely impacted by the roadway and associated runoff stressors. A hay
field is located to the east of the wetland. A housing development to the north has resulted in the clearing of trees
and herbaceous vegetation.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, no invasive species, disturbed
Human Use Values	Visible to public, no recreation opportunities
Wildlife Habitat	Lack of diverse habitats, potential standing water to support some herpetofauna
Fish and Aquatic Life Habitat	Potential standing water or inundation to support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, dense vegetation, receives runoff from roadway and agriculture field
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-03			
•	State: WI Sampling Point: wasbu					
Investigator(s): KDF/SAM	Section, Township, Range: 045N-004W-12					
	Local relief (concave, convex, none): None Slope (%): 0-					
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Portwing-Herbster C						
Are climatic / hydrologic conditions on the site typic	•	•				
Are Vegetation, Soil, or Hydrology _						
Are Vegetation, Soil, or Hydrology _						
			,			
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transect	ts, important features, etc.			
Hydrophytic Vegetation Present? Yes	No✓ Is the	Sampled Area				
	No <u>√</u> withir	a Wetland? Yes	No <u>√</u>			
		optional Wetland Site ID:				
Remarks: (Explain alternative procedures here or Sample recorded in a hay field that		the summer				
Sample recorded in a may field the	at was nayed earlier in	tille Sullillet.				
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)			
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Sc	oil Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)				
	Aquatic Fauna (B13)	Moss Trim Lines (B16)				
	Marl Deposits (B15)		Dry-Season Water Table (C2)			
	Hydrogen Sulfide Odor (C1)	urrows (C8)				
	Oxidized Rhizospheres on Li	- :	Visible on Aerial Imagery (C9)			
1 <del></del>	Presence of Reduced Iron (C	· —	Stressed Plants (D1)			
	Recent Iron Reduction in Till		ic Position (D2)			
	Thin Muck Surface (C7)	Shallow Ad				
	Other (Explain in Remarks)	· -	graphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neuti	ral Test (D5)			
	✓ Depth (inches):					
	✓ Depth (inches):					
	Depth (inches):		ent? Yes No✓_			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous in	spections), if available:				
Remarks:						
No primary or secondary indicator	rs of hydrology were o	bserved.				

# **VEGETATION** – Use scientific names of plants.

	Species?		Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
			That Are OBL, FACW, or FAC:(A)
			L Total Number of Dominant
			Total Number of Dominant Species Across All Strata: 3.0 (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 0.0 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
0.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0
			FACW species x 2 =0.0
			FAC species x 3 =0.0
			FACU species 70.0 x 4 = 280.0
			UPL species 35.0 x 5 = 175.0
			Column Totals: <u>105.0</u> (A) <u>455.0</u> (B)
			Prevalence Index = B/A =4.3
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
	- Total Co	vor	2 - Dominance Test is >50%
0.0	= Total Co	vei	3 - Prevalence Index is ≤3.0¹
25.0	Υ	UPI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
	Y		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	NI		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
05.0	= Total Co	ver	height.
			Hydrophytic
		·	Hydrophytic Vegetation
		. ———	Present? Yes No/_
	0.0 = 0.0 =	0.0 = Total Co  0.0 = Total Co  25.0 Y  25.0 Y  10.0 N  10.0 N  10.0 S	0.0 = Total Cover  25.0 Y UPL 25.0 Y FACU 25.0 Y FACU 10.0 N FACU 10.0 N FACU 10.0 N UPL  05.0 = Total Cover

SOIL Sampling Point: wasb043\_u

Profile Desc	ription: (D	escribe 1	to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Color (r	Matrix	%	Redo Color (moist)	x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches) 0-16	5YR		100	Color (Illoist)	70	туре	LUC	C:	Remarks
16-18		-	100						
10 10	<u> </u>		100						
					· ——				
					· ——				
	-								
	-				·				
						-			
					. ——				
	-				· ——	-			
17		D D	- Con DM	Danks and Matrice MA				21 11 1	N. Daniel Colonia M. Martelia
Hydric Soil			etion, RM=	Reduced Matrix, MS	s=Masked	Sand Gra	ains.	Indicators for	L=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Histosol				Polyvalue Belov		(S8) ( <b>LRF</b>	RR,		k (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	oipedon (A2 stic (A3)	2)		MLRA 149B) Thin Dark Surfa		RR R. MI	RA 149B)		irie Redox (A16) ( <b>LRR K, L, R</b> ) ky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
Hydroge	en Sulfide (A			Loamy Mucky N	/lineral (F1	1) (LRR K		Dark Surfa	ace (S7) (LRR K, L)
	d Layers (At d Below Dai		e (A11)	Loamy Gleyed Depleted Matrix		)			Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L)
Thick Da	ark Surface	(A12)	(	Redox Dark Su	rface (F6)			Iron-Mang	ganese Masses (F12) (LRR K, L, R)
	lucky Miner Gleyed Matri			Depleted Dark S Redox Depress		7)			Floodplain Soils (F19) ( <b>MLRA 149B</b> ) odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
Sandy R	Redox (S5)				10110 (1 0)			Red Pare	nt Material (F21)
	Matrix (S6) rface (S7) (		ILRA 149E	3)					low Dark Surface (TF12) plain in Remarks)
		-	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if ob	served):							
Type:	ches).							Hydric Soil Pre	esent? Yes No✓_
Remarks:	ones)								
No redox	c feature	es or h	ydric so	oil indicators v	vere ob	serve	d.		



wasb043\_u\_E



wasb043\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project Cit	y/County: Ashland Sampling Date: 2019-10-03				
	State: WI Sampling Point: wasb044e_w				
Investigator(s): SAM/KDF	ction, Township, Range: 045N-004W-12				
	relief (concave, convex, none): Concave Slope (%): 3-7%				
	Long: <u>-90.800366</u> Datum: <u>WGS84</u>				
	percent slopes NWI classification:				
	•				
Are climatic / hydrologic conditions on the site typical for this time of year?					
	sturbed? Are "Normal Circumstances" present? Yes No				
Are Vegetation, Soil, or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area				
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No				
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a separate report.)					
Slight depressional basin on a slope that is fed v	a a nearby culvert.				
HYDROLOGY Western Hydrology Indicators	Coopeday, Indicators (minimum of two yearsing)				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
	Surface Soil Cracks (B6)				
Surface Water (A1) Water-Stained Lea High Water Table (A2) Aquatic Fauna (B1					
Aquatic Fabre (A2) Aquatic Fabria (B1) Saturation (A3) Marl Deposits (B1)					
Water Marks (B1) Hydrogen Sulfide					
	neres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3) Presence of Redu	· · · · · · · · · · · · · · · · · · ·				
	ction in Tilled Soils (C6) Geomorphic Position (D2)				
Iron Deposits (B5) Thin Muck Surface	e (C7) Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No ✓ Depth (inches): _					
Water Table Present? Yes No ✓ Depth (inches): _					
Saturation Present? Yes No ✓ Depth (inches): _ (includes capillary fringe)	Wetland Hydrology Present? Yes No				
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:				
Remarks:					
Fed by a culvert running beneath an impervious	road. Additionally, this feature includes an				
ephemeral waterway. Feature appears to be sea	•				

**VEGETATION** – Use scientific names of plants.

Tree Obstance (Distrained 20)	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover	•		Number of Dominant Species
1				That Are OBL, FACW, or FAC:3.0 (A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
3				Species Across All Strata:(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				That Are OBL, FACW, or FAC:100.0 (A/B)
6				Prevalence Index worksheet:
7			-	Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species10.0 x 1 =10.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>50.0</u> x 2 = <u>100.0</u>
1				FAC species <u>0.0</u> x 3 = <u>0.0</u>
2				FACU species <u>0.0</u> x 4 = <u>0.0</u>
3				UPL species $0.0   x 5 = 0.0$ Column Totals: $60.0   (A)   110.0   (B)$
4				Column Totals. <u>00.0</u> (A) <u>110.0</u> (B)
5				Prevalence Index = B/A =1.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0		over	
Herb Stratum (Plot size:5')		- rotar oc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3 - Prevalence Index is ≤3.0¹
1. Phalaris arundinacea	25.0	Y	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Onoclea sensibilis	10.0	Υ	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Impatiens capensis</u>		Y	FACW	
4. Scirpus atrovirens		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Symphyotrichum lanceolatum		N	FACW	
6. Glyceria striata			OBL	Definitions of Vegetation Strata:
•				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	<u>60.0</u> :	= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	over	
Remarks: (Include photo numbers here or on a separate A graminoid-dominated basin, primarily		inary g	rass and	d sensitive fern.

Sampling Point: wasb044e\_w

SOIL Sampling Point: wasb044e\_w

Profile Description: (Describe to the de	-			or confirm	the absence of inc	dicators.)
Depth Matrix		x Features		1 - 2	Tandon	Developin
(inches) Color (moist) %	Color (moist)		_Type'	Loc <sup>2</sup>	Texture	Remarks
		- - - -				
	-	· ——				
		· ——				
<sup>1</sup> Type: C=Concentration, D=Depletion, RI	M=Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 14)  **Indicators of hydrophytic vegetation and vestrictive Layer (if observed):		nace (S9) (L Mineral (F1) Matrix (F2) (F3) (F3) Surface (F6) Surface (F7)	RR R, MI ) (LRR K	.RA 149B) , L)	2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent I Very Shallov Other (Explain	roblematic Hydric Soils <sup>3</sup> : A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B) Material (F21) v Dark Surface (TF12) sin in Remarks)
Type: Depth (inches):					Hydric Soil Prese	ent? Yes <u>√</u> No
Remarks: Soils were not evaluated due to be hydric based on the to	e to a buried ele					ure. Soils are assumed



wasb044e\_w\_N



wasb044e\_w\_SW

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
	Fyeluctor(e)			
Project name:	Evaluator(s): KDF/SAM			
Line 5 Relocation Project				
File #: wasb044	Date of visit(s): 10/03/2019			
		200		
Location:	Ecological Landsca	ipe:		
PLSS: <u>045N-004W-12</u>	Superior Coastal Plain			
Lat: 46.38554 Long: -90.800267	Watershed: LS12, Marengo River			
County: Ashland Town/City/Village: Marengo town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
480B Portwing-Herbster complex	Wetland Type(s):			
<b>3</b>	PEM - fresh wet meadow			
Field Verified:				
Series not verified. Soils were not sampled due to	Wetland Size:	Wetland Area Impacted		
the proximity of a buried electric utility line within	0.02	0.02		
the ditch.	Vegetation:			
	Plant Community Description(s):			
Hydrology: The hydrologic regime is seasonally saturated. A culvert feeds into the wetland and flows into a small stream.	The dominate herbaceous vegetation is Phalaris arundinacea.			
	l .			

 SITE MAP	

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
8	N I	N	Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present $\geq$ 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	Y	Seasonally exposed mudflats present
-	N	N	
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	N	Y	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Υ	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	Ν	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Ν	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Ν	N	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y	Y	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	.,		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland  Wetland remains acturated for an extended time period with neadditional water inputs
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

# Section 1 Comments (Refer to Section 1 numbers) WH-10: potential standing water after precipitation events, along with water flow from culvert to associated stream ST-2: wetland has channelized flow to associated stream ST-5: located alongside roadway SP-1: associated with small, ephemeral stream Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Y Avian, herpetofauna, small mammals, insects

Observed	Potential	Species/Habitat/Comments
	Υ	Avian, herpetofauna, small mammals, insects

Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Υ	Aquatic invertebrates

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Common
Onoclea sensibilis			PEM	Common
Impatiens capensis			PEM	Common
Scirpus atrovirens			PEM	Uncommon
Symphyotrichum lanceolatum			PEM	Uncommon
Glyceria striata			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of plant community expected within an artificial ditch wetland. Moderate invasive species cover is present within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor	
					Filling, berms (non-impounding)	
					Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
Х	Х		M	С	Point source or stormwater discharge	
Х	Х		M	С	Polluted runoff	
					Pond construction	
					Agriculture – row crops	
	Х		M	С	Agriculture – hay	
					Agriculture – pasture	
Х	Х		M	С	Roads or railroad	
					Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
					Removal of herbaceous stratum – mowing,	
					grading, earthworms, etc.	
					Removal of tree or shrub strata – logging,	
					unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
					Removal of large woody debris	
X	Х		M	С	Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
					Excavation or soil grading	
					Other (list below):	

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is an artificial ditch impacted by the close proximity of a roadway and the associated runoff stressors. A
hay field is adjacent to the wetland and likely provides additional runoff stressors. Invasive species are present withi
the wetland and surrounding area.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity	<b>√</b>							
Human Use Values	<b>√</b>							
Wildlife Habitat	<b>√</b>							
Fish and Aquatic Life Habitat	<b>√</b>							
Shoreline Protection	<b>√</b>							
Flood and Stormwater Storage			<b>√</b>					
Water Quality Protection			<b>√</b>					
Groundwater Processes		<b>✓</b>						

FUNCTION	RATIONALE
Floristic Integrity	Disturbed vegetation, invasive species present
Human Use Values	Artificial ditch wetland, no recreation opportunities but visible to the public via public roadway
Wildlife Habitat	Potential for standing water to support herpetofauna, lack of diverse habitats available within the wetland but is associated with a small stream and adjacent to forested block
Fish and Aquatic Life Habitat	Unlikely to support fish and aquatic invertebrates
Shoreline Protection	Moderate vegetation along shoreline
Flood and Stormwater Storage	Channelized flow from culvert to associated stream, receives runoff inputs from roadway and agriculture fields
Water Quality Protection	See above
Groundwater Processes	Remains saturated for extended periods of time

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-03		
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb044_u		
Investigator(s): SAM/KDF	Section, Township, Range: 045N-004W-12				
Landform (hillslope, terrace, etc.): Talf	Local relief (concave, convex, none): None Slope (%): C				
Subregion (LRR or MLRA): Northcentral Forests Lat					
Soil Map Unit Name: Portwing-Herbster con					
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes✓	No (If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes ✓ No		
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS - Attach site m	nap showing sampling po	int locations, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	npled Area			
		Vetland? Yes	No <u></u>		
Wetland Hydrology Present? Yes	_ No✓ If yes, opt	ional Wetland Site ID:			
Remarks: (Explain alternative procedures here or in	a separate report.)				
Hay field that was hayed earlier this	summer. Borders a lo	rested finger that inci	ludes both a		
waterbody and wetland feature.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; chec		Surface Soil	Cracks (B6)		
	Water-Stained Leaves (B9)	Drainage Patterns (B10)			
	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
	Marl Deposits (B15)				
	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living		isible on Aerial Imagery (C9)		
	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Stunted or Stressed Plants (D1)  Is (C6) Geomorphic Position (D2)			
	Thin Muck Surface (C7)	bils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)			
	Other (Explain in Remarks)	Shahow Aquitaru (D3) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Heritaine)	FAC-Neutral			
Field Observations:			1001 (20)		
Surface Water Present? Yes No _ ✓	_ Depth (inches):				
	Depth (inches):				
	Depth (inches):		nt? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring value)					
Describe Recorded Data (stream gauge, monitoring v	Well, aeriai priotos, previous irispe	Ctions), ii avaliable.			
Remarks:	t de la la la la constanta de				
No primary or secondary indicators	of wetland hydrology.				

# **VEGETATION** – Use scientific names of plants.

Trace Observations (Distriction 201	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')	% Cover	-		Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata: 3.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 33.333333333333 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species0.0 x 2 =0.0
1				FAC species <u>20.0</u> x 3 = <u>60.0</u>
2				FACU species <u>80.0</u> x 4 = <u>320.0</u>
				UPL species x 5 =0.0
3				Column Totals: <u>100.0</u> (A) <u>380.0</u> (B)
4				Prevalence Index = B/A = 3.8
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
1.	0.0	Total Ca		2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )	0.0	= Total Co	vei	3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Plantago lanceolata	25.0	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Trifolium pratense		Y	FACU	Problematic Hydrophytic Vegetation¹ (Explain)
3. Ranunculus acris			FAC	
4. Phleum pratense		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5. <u>Dactylis glomerata</u>		N	FACU	Definitions of Vegetation Strata:
6. <u>Taraxacum officinale</u>		_N_	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Plantago major</u>			<u>FACU</u>	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	100.0	= Total Co	over	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3.				Hydrophytic
4.				Vegetation
	0.0		over	Present? Yes No/
Remarks: (Include photo numbers here or on a separate	sheet.)			
Hay field dominated by clover and past	ture gras	ses bu	it also in	cludes Queen Anne's lace.

Sampling Point: wasb044\_u

SOIL Sampling Point: wasb044\_u

Profile Description: (Describe to the d	-			or confirm	the absence of inc	dicators.)
Depth Matrix		x Features		1 2	Tandina	Downsiles
(inches) Color (moist) %	Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
		- — — — — — — — — — — — — — — — — — — —				
	- <u> </u>	·				
<sup>1</sup> Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.
Hydric Soil Indicators:  Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 14)  Indicators of hydrophytic vegetation and Restrictive Layer (if observed):		nace (S9) ( <b>L</b> Mineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	.RR R, MI I) (LRR K ) (7)	.RA 149B) , L)	2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark S Iron-Mangar Piedmont FI Mesic Spodi Red Parent Very Shallov Other (Explain	roblematic Hydric Soils <sup>3</sup> : (A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B) ic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12) ain in Remarks)
Type:					Hydric Soil Pres	ent? Yes No <u>√</u>
Remarks: Unable to dig due to the pronon-hydric based on landsca	ximity of a burie					s are assumed to be



wasb044\_u\_N



wasb044\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashla	and	Sampling Date: 2019-10-03
•			Sampling Point: wasb045e_w
Investigator(s): SAM/KDF			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3			
Soil Map Unit Name: Portwing-Herbster complex			
Are climatic / hydrologic conditions on the site typical for this tir	• •		
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology natu			
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No _	Is the Sample	ed Area	
Hydric Soil Present? Yes ✓ No	141 1 107 41	and? Yes <u>√</u>	No
Wetland Hydrology Present? Yes No _		al Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separa		• .	
Small depressional wetland within a hay f	ield. Artificial in orig	Jin.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply)	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Surface Water (A1) Water-	Stained Leaves (B9)	Drainage Pa	
	Fauna (B13)	Moss Trim L	
Saturation (A3) Marl De	eposits (B15)	Dry-Season	Water Table (C2)
	en Sulfide Odor (C1)	Crayfish Bur	' '
	ed Rhizospheres on Living Ro		isible on Aerial Imagery (C9)
1 — · · · · · · · —	ce of Reduced Iron (C4)		tressed Plants (D1)
	Iron Reduction in Tilled Soils		
	uck Surface (C7)	Shallow Aqu	aphic Relief (D4)
	Explain in Remarks)	Microtopogra	' '
Sparsely Vegetated Concave Surface (B8)  Field Observations:			Test (D3)
Surface Water Present? Yes No _✓ Depth	(inches):		
Water Table Present? Yes No _✓ Depth			
Saturation Present?  Yes No _ ✓ Depth		Vetland Hvdrology Preser	nt? Yes <u>√</u> No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspection	ns), if available:	
Remarks:			
Feature with a seasonally saturated hydro	ologic regime.		

**VEGETATION** – Use scientific names of plants.

	3.			Sampling Point: wasb045e_v
Tree Stratum (Plot size:30')	Absolute % Cover			Dominance Test worksheet:
1.		•		Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0. 11. (0) 1. 0 (0) 1	=	= Total Co	over	OBL species $75.0 \times 1 = 75.0$ FACW species $10.0 \times 2 = 20.0$
Sapling/Shrub Stratum (Plot size: 15')				FAC species 10.0 x2 = 20.0 FAC species 10.0 x3 = 30.0
1				FACU species 5.0 x 4 = 20.0
2.				UPL species 0.0 x 5 = 0.0
3				Column Totals: <u>100.0</u> (A) <u>145.0</u> (B)
4				Prevalence Index = B/A =1.5
5.				Hydrophytic Vegetation Indicators:
6				✓ 1 - Rapid Test for Hydrophytic Vegetation
7	0.0 =			✓ 2 - Dominance Test is >50%
Harb Chroture (Distains)	=	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:5' ) 1. Juncus effusus	50.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Persicaria hydropiper		Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex annectens</u>		N	FACW	1
4. <u>Ranunculus acris</u>		N	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <i>Phleum pratense</i>	5.0	N	<u>FACU</u>	Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			_	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb - All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	<u>100.0</u> =	= Total Co	over	noight.
Woody Vine Stratum (Plot size: 30')				
1				
2				
0				Hydrophytic Vegetation
3				
3 4				Present? Yes No

SOIL Sampling Point: wasb045e\_w

Profile Desc Depth		e <b>scribe t</b> Matrix	o the dep	oth needed		<b>nent the i</b> r x Features		or confirm	the absence	e of indicators.)
(inches)	Color (m		%	Color (m		<u> %</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	7.5YR	3/2	95	7.5YR	5/8	_5_		_M_	SC	Prominent redox
12-18	7.5YR	4/2	<u>85</u>	7.5YR	5/8	<u>15</u>	C	_M_	SCL	Prominent redox
<sup>1</sup> Type: C=C  Hydric Soil	oncentration,	D=Depl	etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy F Stripped	pipedon (A2) pipedon (A2) pistic (A3) en Sulfide (A4 d Layers (A5) d Below Dark ark Surface (A Mucky Minera Gleyed Matrix Redox (S5) d Matrix (S6) urface (S7) (Li	Surface A12) I (S1) (S4)		MLF Thin D Loamy Loamy Deplet Redox Deplet Redox	RA 149B) Park Surfa Mucky M Gleyed N red Matrix Dark Sur	ice (S9) (L Mineral (F1 Matrix (F2) (F3) rface (F6) Surface (F	.RR R, MI ) (LRR K	LRA 149B)	Coasi 5 cm Dark Polyv Thin I Iron-N Piedn Mesic	Muck (A10) (LRR K, L, MLRA 149B) t Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) E Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	f hydrophytic	_		etland hydro	logy mus	t be prese	nt, unles	s disturbed	or problemat	ic.
	Layer (if obs	erved):								
Type:									Hudria Sai	il Procent? Vec / No
Depth (in Remarks:	ches):								Hydric Soi	il Present? Yes No
Matrix de	epleted ir	n the E	3 horiz	on.						



wasb045e\_w\_E



wasb045e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/SAM		
File #:	Date of visit(s):		
wasb045	10/03/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-004W-13</u>	Superior Coastal Plain		
	Superior Coastai i lain		
Lat: <u>46.385112</u> Long: <u>-90.8001</u>	Watershed:		
	LS12, Marengo River		
County: Ashland Town/City/Village: Marengo town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
480B Portwing-Herbster complex	Wetland Type(s):		
J I	PEM - Fresh wet meadow		
Field Verified:			
Series not verified. Soils were sandy clay above	Wetland Size:	Wetland Area Impacted	
sandy clay loam.	0.02	0.02	
	Vegetation:	I	
	Plant Community D	Description(s):	
Hydrology:	•	erbaceous vegetation is	
The hydrologic regime is seasonally saturated		•	
with recharge hydrology.	Julicus ellusus a	and Persicaria hydropiper.	
With roomange mydrology.			

SITE MAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 13	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>&gt; 45 days</u>
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Ϋ́	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
	N.I	\/	Provides substantial storage of storm and floodwater based on previous section
1	N	Y	Basin wetland or constricted outlet
2	Y	Y	
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Υ	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	Υ	Y	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	I N	Trought to maint a nominate protocolori area

Section 1 Comments (Refer to Section 1 numbers) WH-10: saturated wetland with potential standing water after precipitation events WQ-1: closed basin wetland located in the middle of an agriculture field WQ-5: patchy vegetation within the wetland Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Junucs effusus			PEM	Abundant
Persicaria hydropiper			PEM	Common
Carex annectens			PEM	Common
Ranunculus acris			PEM	Common
Phleum pratense			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of plant community with observed invasive species. There is low diversity within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		М	С	Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		Н	С	Agriculture – hay
					Agriculture – pasture
	Х		L	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Χ		М	С	Cover of non-native and/or invasive species
	Х		М	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is located within a hay field that was previously hayed and is impacted by stressors associated with	
agriculture. Invasive species are present within and around the wetland, and residential land use is present within t	he
buffer area.	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, invasive species present
Human Use Values	Visible to public via roadway, no recreation opportunities
Wildlife Habitat	Lack of diverse habitats, one stratum represented, small size
Fish and Aquatic Life Habitat	Potential shallow standing water unlikely to support aquatic invertebrates or fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, receives runoff from agriculture
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-03
•			Sampling Point: wasb045_u
Investigator(s): SAM/KDF			
Landform (hillslope, terrace, etc.): Rise		-	
Subregion (LRR or MLRA): Northcentral Forests Lat	46.384704	Long: -90.799906	Datum: WGS84
Soil Map Unit Name: Portwing-Herbster con			
Are climatic / hydrologic conditions on the site typical for	•	•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
			,
SUMMARY OF FINDINGS – Attach site m	nap showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam		
	No within a W	etland? Yes	No <u></u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in Open hay field dominated by pastur	a separate report.)		
Open hay held dominated by pastur	e grasses and clover.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)	Surface Soil	Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	· ·	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish But	
	Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)		/isible on Aerial Imagery (C9) Stressed Plants (D1)
1 — · · · · —	Recent Iron Reduction in Tilled So		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutra	
Field Observations:			, ,
Surface Water Present? Yes No _ ✓	Depth (inches):		
Water Table Present? Yes No✓	Depth (inches):		
	Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring v	well, aerial photos, previous inspec	tions), if available:	
	,	,,	
Remarks: No primary or secondary indicators	of wetland hydrology of	nserved	
Two primary or secondary indicators	or wettaria riyarology of	Joci voa.	
			ı

# **VEGETATION** – Use scientific names of plants.

				Sampling Point: <u>wasb045_</u> u
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1		-		Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)
2				Total Number of Dominant
i.	<u> </u>			Species Across All Strata: 2.0 (B)
l				Percent of Dominant Species That Are OBL, FACW, or FAC: 0,0 (A/B)
5				That Are OBL, FACW, or FAC: 0.0 (A/B)
S	·			Prevalence Index worksheet:
<b>,</b>				Total % Cover of: Multiply by:
451	=	: Total Co	over	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size:15')				FACW species 0.0 x 2 = 0.0 FAC species 10.0 x 3 = 30.0
l				FACU species
D				UPL species 35.0 x 5 = 175.0
3				Column Totals: 120.0 (A) 505.0 (B)
l				Prevalence Index = B/A = 4.2
i				
S	<u> </u>			Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0=	: Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
. <u>Trifolium pratense</u>	50.0	<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Medicago sativa</u>		<u>Y</u>	UPL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Ranunculus acris</u>	<u>10.0</u>	N	<u>FAC</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Daucus carota</u>		N	<u>UPL</u>	be present, unless disturbed or problematic.
5. <u>Poa pratensis</u>	10.0	N	<u>FACU</u>	Definitions of Vegetation Strata:
6. <u>Phleum pratense</u>	10.0_	N	<u>FACU</u>	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Plantago lanceolata</u>	5.0	N	<u>FACU</u>	at breast height (DBH), regardless of height.
3				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11	<u> </u>			of size, and woody plants less than 3.28 ft tall.
12	<u> </u>			<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	<u>120.0</u> =	: Total Co	over	inologi.u
Noody Vine Stratum (Plot size: 30')				
l	<u> </u>			
2	<del>_</del>			
3				Hydrophytic
4				Vegetation Present? Yes No✓
	0.0 =	- Total Co	over	

SOIL Sampling Point: wasb045\_u

Depth   Matrix   Color (moist)   %   Type¹   Loc²   Texture   Remarks
0-12 7.5YR 3/2 95 7.5YR 5/8 5 C M SL Prominent redox
12-16
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)
Histic Epipedon (A2)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L)
Stratified Layers (A5)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Type:  Depth (inches):
Depth (inches): Hydric Soil Present? Yes✓ No  Remarks:
Redox observed and meets F6.



wasb045\_u\_S



wasb045\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl:	and	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDF	Section, Township, F	Range: 045N-003W-	18
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3	82961 L	ong: -90.787761	Datum: WGS84
Soil Map Unit Name: Cornucopia silt loam, 6 to 1	5 percent slopes	NWI classific	cation.
Are climatic / hydrologic conditions on the site typical for this til	•		
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology nate			
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point	t locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No _	Is the Sampl	ed Area	
Hydric Soil Present? Yes ✓ No	141 1 184 4	land? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No _	If yes, options	al Wetland Site ID:	_
Remarks: (Explain alternative procedures here or in a separative procedures here or in a separative procedure here)		\	
Wet meadow in a pasture, along banks o	r a gully (saseurse)	).	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all tha	t apply)	Surface Soil	Cracks (B6)
Surface Water (A1) Water-	Stained Leaves (B9)	Drainage Pa	itterns (B10)
High Water Table (A2) Aquatio	c Fauna (B13)	Moss Trim L	ines (B16)
	eposits (B15)	Dry-Season	Water Table (C2)
	gen Sulfide Odor (C1)	Crayfish Bur	
	ed Rhizospheres on Living Ro		isible on Aerial Imagery (C9)
1 — · · · · · · —	nce of Reduced Iron (C4)		tressed Plants (D1)
	t Iron Reduction in Tilled Soils		
	uck Surface (C7)	Shallow Aqu	
	(Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutral	Trest (D5)
Surface Water Present? Yes No✓ Depth	(inches):		
Water Table Present? Yes No _✓ Depth			
Saturation Present?  Yes No _ ✓ Depth		Wetland Hydrology Preser	nt? Yes ✓ No
(includes capillary fringe)	,		
Describe Recorded Data (stream gauge, monitoring well, aer	ial photos, previous inspectio	ns), if available:	
Remarks:			
Seasonally saturated recharge wetland.			

VEGETATION – Use scientific names of plants				Sampling Point: wase027e_w
Tree Obstance (Distrained 20)	Absolute		nt Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30') 1			? Status	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant Species Across All Strata:1 (B)
3				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Co	over	OBL species <u>98</u> x 1 = <u>98</u>
Sapling/Shrub Stratum (Plot size:)				FACW species16 x 2 =32
1				FAC species0 x 3 =0
2				FACU species0 x 4 =0
3.				UPL species 0 x 5 = 0
				Column Totals: <u>114</u> (A) <u>130</u> (B)
4				Prevalence Index = B/A =1.14
5				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7	_			✓ 2 - Dominance Test is >50%
	0	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5' )  1. Scirpus atrovirens	85	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Impatiens capensis			FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
			OBL	<u> </u>
3. Persicaria sagittata				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Glyceria striata			OBL	be present, unless disturbed or problematic.
5. <u>Carex crinita</u>			OBL	Definitions of Vegetation Strata:
6. <u>Juncus effusus</u>			OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Bidens frondosa</u>	1	N	<u>FACW</u>	at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	_114_	= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1		-		
2		-		
3				Hydrophytic
4				Vegetation
	0			Present? Yes No
Remarks: (Include photo numbers here or on a separate				<u> </u>
Sampe plot is representative of the fea				

SOIL Sampling Point: wase027e\_w

Profile Des	cription: (Describe t	o the dep	th needed	to docum	ent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				<u>Features</u>		. 2	<b>-</b> .	<b>5</b>
(inches)	Color (moist) 10YR 2/2	100	Color (r	moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
			5YR	3/4			M	<del></del> -	Prominent redox concentrations
							M	Cl	T TOTHINGTIC TOUGH CONTOCHERATIONS
2-9 10YR 2/2 95 5YR 3/4 5 C M  9-20 10YR 2/2 85 2.5YR 2.5/4 15 C M   "Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.  Hydric Soil Indicators:  Histosol (A1) Polyvalue Below Surface (S8) (LRR R, MLRA 149B)  Black Histic (A3) MLRA 149B)  Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11) Depleted Matrix (F3)  Thick Dark Surface (A12) Redox Dark Surface (F6)  Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)  Sandy Gleyed Matrix (S4) Redox Depressions (F8)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA 149B)						ains.  R R,  LRA 149B)	Indicators  2 cm N 5 cm N Dark S Polyva Thin D Iron-M Piedm Mesic Red P Very S	n: PL=Pore Lining, M=Matrix.  If or Problematic Hydric Soils <sup>3</sup> :  Muck (A10) (LRR K, L, MLRA 149B)  Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  alue Below Surface (S8) (LRR K, L)  Dark Surface (S9) (LRR K, L)  Janganese Masses (F12) (LRR K, L, R)  Joint Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  Jarent Material (F21)  Shallow Dark Surface (TF12)  (Explain in Remarks)	
Restrictive	Layer (if observed):				· ·				
Type:								Hydric Soil	Present? Yes √ No
Remarks:	th redox.							Hydric 30ii	rresent: res_v NO



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# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/ARK		
File #:	Date of visit(s):		
wase027	09/28/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>045N-003W-18</u>	Cupariar Caastal Dlain		
	Superior Coastal Plain		
Lat: 46.383173 Long: -90.788177	Watershed:		
	LS12, Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
481C Cornucopia silt loam	Wetland Type(s):		
	PEM - fresh wet	meadow	
Field Verified:		cado	
Series not verified. Soils were a loam over clay	Wetland Size:	Wetland Area Impacted	
loam.	0.06	0.06	
iodiii.	Vegetation:	1	
	Plant Community D	Description(s):	
Hydrology:	-		
The hydrologic regime is seasonally saturated		erbaceous vegetation is	
, , ,	Scirpus atrovirer	ns.	
with recharge hydrology.			

SITE MAP		

### SECTION 1: Functional Value Assessment

1 N N Used for recreation (hunting, birding, hiking, etc.). List: 2 N N Usually or physically accessible to public 4 N N N A Sehehically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to achaeological or cultural resource site WH WIldlife Habitat 1 N Y Waland and conditions habitat 100 acros 2 N N N Occurs in a John Venture provide or established wildlife habitat area 3 N N Wilthin or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) intact 5 N N Cocurs in a John Venture priority lownship. 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wettand/upland complex,etc.) 7 N Y plant of a large habitat block that supports area sensitive species 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N N Standing water provides habitat for amphibians and aqualic invertebrates 11 N N Seasonally exposed muldfats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennal advance in lake 1 N N Vegatation is inundated in spring SP Shoreline Protection 1 N N Standing water provides habitat for amphibians and aqualic invertebrates 1 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Vegatation is inundated in spring SP Shoreline Protection 1 N N Standing water provides habitat for amphibians and aqualic invertebrates 3 N N Niatural Heritage inventory (NHI) listed aquatic species within aquatic system 4 N N Vegatation is inundated in spring 5 P Shoreline Protection 1 N N Standing water provides habitat for amphibians and aqualic invertebrates 3 N N Niatural Heritage inventory (NHI) listed aquatic species within aquatic system 4 N N Vegatation is inundated in sp			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Visually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N Lor adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wildlife Habitat 1 N Y Wildlife Habitat 1 N Y Wildlife Habitat 2 N N 3 or more strata present (-10% cover) 3 N N Wilhin or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority fownship 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, weltand/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Standing water provides habitat for amphibians and aquatic invertebrates 13 N N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 14 N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N Standing water provides habitat	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	N	N	
S N N	4			
S		- ' '		
Fig.   Fig.	5	N	N	
The content of the	6	N	NI	
Wildlife Habitat   N		IN	IN	
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2	h +	N.I.	V	
3			-	
4 N N   100 m buffer – natural land cover ≥ 50%(south) 75% (north) intact				
6         N         N         Occurs in a Joint Venture priority township           6         N         N         Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)           7         N         Y         Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans           8         N         Y         Part of a large habitat block that supports area sensitive species           9         N         N         Ephemeral pond with water present ≥ 45 days           10         N         N         Standing water provides habitat for amphibians and aquatic invertebrates           11         N         N         Seasonally exposed mudflats present           12         N         Provides habitat scarce in the area (urban, agricultural, etc.)           FA         Fish and Aquatic Life Habitat           1         N         N         Wetland is connected or contiguous with perennial stream or lake           2         N         N         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Standing water provides habitat for amphibians and aquatic invertebrates           3         N         N         Natural Heritage Inventory (NH1) listed aquatic species within aquatic system           4         N	-			
For the content of				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			
N	6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
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9				
10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Passin wetland gr constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Water flow through wetland is NOT channelized 5 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WG Water Quality Protection 1 N Y Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N Y Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N Y Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N N	-			
11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed WQ Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 3 Y Y Vegetated wetland associated with a lake or stream 9 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 8 N Y Wetland remains saturated for an extended time period with no additional water inputs	-		N	
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N		'		
3       Y       Y       Densely rooted emergent or woody vegetation         ST       Storm and Floodwater Storage         1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       Y       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with <10% wetland	2	N	N	
ST	3			
1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       Y       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with <10% wetland		- 1	l l	
2 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with _10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs			V	
3       Y       Y       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       Y       Y <td></td> <td></td> <td></td> <td>· · · · · · · · · · · · · · · · · · ·</td>				· · · · · · · · · · · · · · · · · · ·
4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       Y       Y       Natural land cover in 100m buffer area < 50%				
5         N         N         Point or non-point source inflow           6         N         N         Impervious surfaces cover >10% of land surface within the watershed           7         N         N         Within a watershed with ≤10% wetland           8         N         N         Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event           WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         Y         Y         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         Y         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         N         Y         Discharge to surface water           9         Y         Y         Natural land cover in 100m buffer area < 50%				
6 N N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\vdash$			
7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       Y       Y       Natural land cover in 100m buffer area < 50%				
N				
WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         Y         Y         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         Y         Y         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         N         Y         Discharge to surface water           9         Y         Y         Natural land cover in 100m buffer area < 50%				
1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       Y       Discharge to surface water         9       Y       Y       Natural land cover in 100m buffer area < 50%	-	N	N	
2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic	. 1			
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4 Y Y Vegetated wetland associated with a lake or stream  5 Y Y Dense, persistent vegetation  6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N Y Discharge to surface water  9 Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	-			
5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		Υ	Υ	
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	4	Υ	Υ	Vegetated wetland associated with a lake or stream
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	5	Υ	Υ	Dense, persistent vegetation
7 N N Stormwater or surface water from agricultural land is major hydrology source  8 N Y Discharge to surface water  9 Y Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8       N       Y       Discharge to surface water         9       Y       Y       Natural land cover in 100m buffer area < 50%	-			
9 Y Y Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic	$\vdash$			
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
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2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic		NI.	N.I	
3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
4 N N Wetland soils are organic				
<u> </u>	-		· ·	
I 5 I N I N I Wetland is within a wellhead protection area				
O N N N NOCIONA S WILLIAM A WEILLEAU PROTECTION ALEA	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located on private land within a cow pasture WH-7: few trees present within upland area immediately surrounding wetland WQ-1: closed basin wetland, dense vegetation WQ-8: potential to discharge to surface water after rain events Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments Chipmunk Avian, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%√
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus atrovirens			PEM	Abundant
Impatiens capensis			PEM	Common
Persicaria sagittata			PEM	Uncommon
Glyceria striata			PEM	Uncommon
Carex crinita			PEM	Uncommon
Juncus effusus			PEM	Rare
Bidens frondosa			PEM	Rare

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised of native species with no observable invasive species present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
	Х		M	U	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
Х	Х		Н	С	Agriculture – pasture
	Х		L	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,			0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland and surrounding area is primarily impacted by agriculture and is located within an active pasture.
Polluted runoff may occur from manure washing into the wetland after rain events. A roadway is located nearby
across a small, manipulated stream also within the pasture.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE					
	Low	Medium	High	Exceptional	NA	
Floristic Integrity	<b>√</b>					
Human Use Values	<b>√</b>					
Wildlife Habitat	<b>√</b>					
Fish and Aquatic Life Habitat					<b>√</b>	
Shoreline Protection	<b>√</b>					
Flood and Stormwater Storage		<b>✓</b>				
Water Quality Protection		<b>✓</b>				
Groundwater Processes	<b>√</b>					

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, some grazing, disturbed
Human Use Values	Private land, used for pasture purposes only
Wildlife Habitat	Dense ground cover vegetation, only herbaceous stratum represented
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	Dense herbaceous vegetation but manipulated and degraded by cattle use
Flood and Stormwater Storage	Closed basin, dense herbaceous vegetation
Water Quality Protection	See above, associated with stream
Groundwater Processes	Recharge hydrology, remains saturated for extended periods of time

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-09-28	
•				
Investigator(s): ARK/KDF	Section, Township, Range: 045N-003W-18			
Landform (hillslope, terrace, etc.): Crest				
Subregion (LRR or MLRA): Northcentral Forests Lat				
Soil Map Unit Name: Cornucopia silt loam,				
Are climatic / hydrologic conditions on the site typical f				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology				
		-		
SUMMARY OF FINDINGS – Attach site n	nap snowing sampling pol	nt locations, transects	, important features, etc.	
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam			
	No✓ within a W	etland? Yes	No <u></u>	
		nal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in Upland pasture.	a separate report.)			
Opiana pasture.				
HYDROLOGY				
Wetland Hydrology Indicators:		<u> </u>	ators (minimum of two required)	
Primary Indicators (minimum of one is required; chec				
	Water-Stained Leaves (B9)	Drainage Pa		
	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
	Marl Deposits (B15)		Water Table (C2)	
	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
	Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)	Roots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)		
	Recent Iron Reduction in Tilled So			
	Thin Muck Surface (C7)	Shallow Aquitard (D3)		
	Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	(2.10.1)	FAC-Neutral	· ' '	
Field Observations:		<u> </u>		
Surface Water Present? Yes No _ ✓	Depth (inches):			
	Depth (inches):			
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>	
(includes capillary fringe)		iana) if available.		
Describe Recorded Data (stream gauge, monitoring	weil, aeriai photos, previous inspec	ions), if available:		
Remarks:				
No indicators of wetland hydrology	were observed.			

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants					Oui	inpinig i	oint: wase	021_0	
Tree Stratum (Plot size: 30' )	Absolute % Cover		t Indicator Status	Dominance Test we	Dominance Test worksheet:				
1. <u>Betula papyrifera</u>				Number of Dominan That Are OBL, FAC			0	(A)	
2. Tilia americana								(^)	
3. <u>Fraxinus pennsylvanica</u>			FACW	Total Number of Dor Species Across All S			5	(B)	
			FACU	'			<u> </u>	(D)	
4. <u>Picea glauca</u>			FACU	Percent of Dominant That Are OBL, FAC			0.00	(A/B)	
5. <u>Malus domestica</u>			. ———				0100	. ( /	
6				Prevalence Index w	orkshe	et:			
7				Total % Cover of			ultiply by:		
	_1/_	= Total Co	ver	OBL species					
Sapling/Shrub Stratum (Plot size:)				FACW species					
1			<del>-</del>	FAC species				_	
2				UPL species				_	
3				Column Totals:				— (B)	
4									
5				Prevalence Inc	dex = B/	/A =	3.79		
6				Hydrophytic Veget	ation In	dicators	:		
7				1 - Rapid Test fo	or Hydro	phytic V	egetation		
		= Total Co		2 - Dominance					
Herb Stratum (Plot size: 5' )				3 - Prevalence I					
1. <u>Dactylis glomerata</u>	20	Υ	FACU	4 - Morphologicate data in Rema	al Adapt	tations¹ (l	Provide sup	oporting	
2. <u>Trifolium pratense</u>			FACU	Problematic Hyd			,		
-			FACU	,		3		,	
3. <u>Lotus corniculatus</u> 4. <u>Symphyotrichum lateriflorum</u>		N	FAC	<sup>1</sup> Indicators of hydric				must	
				be present, unless d	isturbed	or probl	ematic.		
5. <u>Solidago altissima</u>		N	FACU	Definitions of Vege	tation S	Strata:			
6. Phleum pratense			FACU	Tree - Woody plants				iamete	
7. <u>Agrostis gigantea</u>		_N_	FACW	at breast height (DB	H), rega	ırdless of	height.		
8. <u>Daucus carota</u>			<u>UPL</u>	Sapling/shrub – Wo				ВН	
9. <i>Plantago major</i>	2	N	<u>FACU</u>	and greater than or	equal to	3.28 ft (	1 m) tall.		
10. <u>Dianthus armeria</u> 11	_ 1	N	UPL	Herb – All herbaceo of size, and woody p				ardless	
12				Woody vines – All v	woody vi	ines grea	ter than 3.2	28 ft in	
	68	= Total Co	ver	height.					
Woody Vine Stratum (Plot size:)									
1									
2.									
3				Hydrophytic					
4.				Vegetation					
۲				Present?	Yes	N	o <u> </u>		
	U	= Total Co	ver						

SOIL Sampling Point: wase027\_u

Profile Des	scription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	n the absence of indicators.)
Depth	Matrix			K Features	<b>3</b>	1 2	Turdura
(inches) 0-6	Color (moist) 10YR 3/2	100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
6-11	7.5YR 3/3	100					SIL
11-17	7.5YR 4/3	100					SIL
	2.5YR 4/6						SIC
		· <del></del> ·					
		. <u> </u>					
	_						
	<u> </u>						
	Concentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :
Histose		_	Polyvalue Belov	v Surface	(S8) ( <b>LRI</b>	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149B) Thin Dark Surfa		DD D M	D A 440D\	Coast Prairie Redox (A16) (LRR K, L, R)
	Histic (A3) Jen Sulfide (A4)		Loamy Mucky N				) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L)
	ed Layers (A5)	- (0.44)	Loamy Gleyed N		)		Polyvalue Below Surface (S8) (LRR K, L)
	ed Below Dark Surface Dark Surface (A12)	e (A11)	Depleted Matrix Redox Dark Sur				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy	Mucky Mineral (S1)		Depleted Dark S	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)
	ed Matrix (S6)						Very Shallow Dark Surface (TF12)
	urface (S7) (LRR R, N	ILRA 149B	)				Other (Explain in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unles	disturbed	for problematic.
	Layer (if observed):						
Type: Depth (i	nches):						Hydric Soil Present? Yes No✓
Remarks:			<del></del>				
Brown I	oam over clay.						
1							



wase027\_u\_NW



wase027\_u\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City/0	County: Ashland Sampling Date: 2019-10-03
Applicant/Owner: Enbridge	State: WI Sampling Point: wasb042e_w
Investigator(s): SAM/KDF Section	ion, Township, Range: <u>045N-003W-18</u>
	elief (concave, convex, none): Concave Slope (%): 0-2%
· · · · · · · · · · · · · · · · · · ·	Long: <u>-90.780394</u> Datum: <u>WGS84</u>
	ercent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	•
	rrbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	by a culvert to the west
Roadside ditch feature in a linear depression. Fed	by a curvent to the west.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained Leave High Water Table (A2) Aquatic Fauna (B13)	
Saturation (A3) Marl Deposits (B15)	
Vater Marks (B1) Hydrogen Sulfide Oc	
Sediment Deposits (B2)  Oxidized Rhizospher	
Drift Deposits (B3) Presence of Reduce	
Algal Mat or Crust (B4) Recent Iron Reduction	· · · · · · · · · · · · · · · · · · ·
Iron Deposits (B5) Thin Muck Surface (	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re	emarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inches):	
Water Table Present? Yes No✓ Depth (inches):	
Saturation Present? Yes No ✓ Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections). if available:
33.,	
Remarks: Feature with seasonal saturation. Receives inputs	from the culvert beyond the survey corridor
reature with seasonal saturation. Receives inputs	from the curvent beyond the survey comdor.
	<b> </b>

**VEGETATION** – Use scientific names of plants.

ninant Indicator Status  Pal Cover  Y FACW  Pal Cover  Y OBL Y OBL OBL	Species Across All Strata:    3.0   (B)
ral Cover  Y FACW  ral Cover  Y OBL Y FACW N OBL	That Are OBL, FACW, or FAC: 3.0 (A)  Total Number of Dominant Species Across All Strata: 3.0 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species 55.0 x1 = 55.0  FACW species 55.0 x2 = 110.0  FAC species 0.0 x3 = 0.0  FACU species 0.0 x4 = 0.0  UPL species 0.0 x5 = 0.0  Column Totals: 110.0 (A) 165.0 (B)  Prevalence Index = B/A = 1.5  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
ral Cover  Y FACW  ral Cover  Y OBL Y FACW N OBL	Species Across All Strata:    3.0   (B)
ral Cover  Y FACW  ral Cover  Y OBL  Y FACW  OBL	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:
ral Cover  Y FACW  ral Cover  Y OBL Y FACW N OBL	That Are OBL, FACW, or FAC:
ral Cover  Y FACW  ral Cover  Y OBL Y FACW N OBL	Total % Cover of: Multiply by:  OBL species 55.0 x 1 = 55.0  FACW species 55.0 x 2 = 110.0  FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 110.0 (A) 165.0 (B)  Prevalence Index = B/A = 1.5  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
ral Cover  Y FACW  FACW  ral Cover  Y OBL  Y FACW  OBL	OBL species
Y FACW  ral Cover  Y OBL Y FACW OBL	FACW species 55.0 x 2 = 110.0  FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 110.0 (A) 165.0 (B)  Prevalence Index = B/A = 1.5  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
ral Cover  Y OBL Y FACW N OBL	FAC species 0.0 x 3 = 0.0  FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 110.0 (A) 165.0 (B)  Prevalence Index = B/A = 1.5  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
ral Cover  Y OBL Y FACW N OBL	FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0  Column Totals: 110.0 (A) 165.0 (B)  Prevalence Index = B/A = 1.5  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
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ral Cover  Y OBL Y FACW N OBL	<ul> <li>_✓ 1 - Rapid Test for Hydrophytic Vegetation</li> <li>_✓ 2 - Dominance Test is &gt;50%</li> <li>_✓ 3 - Prevalence Index is ≤3.0¹</li> <li>_✓ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> <li> Problematic Hydrophytic Vegetation¹ (Explain)</li> <li>¹Indicators of hydric soil and wetland hydrology must</li> </ul>
Y OBL Y FACW OBL	∠ 2 - Dominance Test is >50%     ∠ 3 - Prevalence Index is ≤3.0¹     ∠ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     ∠ Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
Y OBL Y FACW N OBL	3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
Y FACW N OBL	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
Y FACW N OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must
OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	Indicators of hydric soil and wetland hydrology must
	Definitions of Vegetation Strata:
	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	Sapling/shrub – Woody plants less than 3 in. DBH
	and greater than or equal to 3.28 ft (1 m) tall.
	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	Woody vines – All woody vines greater than 3.28 ft in
al Cover	height.
	Hydrophytic   Vegetation
	Present? Yes _ ✓ No
al Cover	
t	tal Cover

SOIL Sampling Point: wasb042e\_w

Profile Description: (Describe to the	e depth needed to docur	ment the indic	cator or confirm	the absence of in	dicators.)
Depth Matrix	Redo	x Features			
(inches) Color (moist)	% Color (moist)		ype <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
<sup>1</sup> Type: C=Concentration, D=Depletion <b>Hydric Soil Indicators:</b> Histosol (A1)	n, RM=Reduced Matrix, MS			Indicators for P	Pore Lining, M=Matrix.  roblematic Hydric Soils <sup>3</sup> :  (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A4)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S7) (LRR R, MLRA)  Indicators of hydrophytic vegetation a	MLRA 149B  Thin Dark Surfa Loamy Mucky N Loamy Gleyed  11) Depleted Matrix Redox Dark Su Depleted Dark Su Redox Depress  A 149B)	) ace (S9) (LRR Mineral (F1) (L Matrix (F2) x (F3) urface (F6) Surface (F7) sions (F8)	R, MLRA 149B) RR K, L)	Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark S Iron-Mangar Piedmont FI Mesic Spodi Red Parent Very Shallov Other (Explain	e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) urface (S9) (LRR K, L) oodplain Soils (F19) (MLRA 149B) ic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12)
Restrictive Layer (if observed):  Type:		·			ent? Yes <u>√</u> No
Remarks: Soils were not examined based on the landscape p	due to the potentia				



wasb042e\_w\_E



wasb042e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	KDF/SAM			
File #:	Date of visit(s):			
wasb042	10/03/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>045N-003W-07</u>	Superior Coastal Plain			
	ouperior obasiai i iairi			
Lat: <u>46.385357</u> Long: <u>-90.780577</u>	Watershed:			
	LS12, Marengo River			
County: Ashland Town/City/Village: Ashland town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
480B Portwing-Herbster complex	Wetland Type(s):			
J I	PEM - fresh wet meadow			
Field Verified:				
Series not verified. Soils were not sampled due to	Wetland Size:	Wetland Area Impacted		
the proximity of potential underground utilities	0.08	0.08		
within the ditch.	Vegetation:			
within the diton.	Plant Community D	escription(s):		
Hydrology:	•	vegetation is dominated by		
The hydrologic regime is seasonally saturated.		acea and Carex lacustris.		
The feature receives inputs from a culvert.				
The leature receives inputs from a curvert.	Shrubs are pres	ent within the wetland, but		
	overall the feature	re is open.		

# SITE MAP

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- ' '	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5		N N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	N	N	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N.I	\/	Provides substantial storage of storm and floodwater based on previous section
2	N Y	Y	Basin wetland or constricted outlet
		Y	Water flow through wetland is NOT channelized
3	N	N	
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Υ	Y	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	IN	1 N	Trouble to them a followed protocolor area

Section 1 Comments (Refer to Section 1 numbers) HU-3: visible from public roadway ST-5: likely inputs from gravel roadway WQ-3: linear roadside feature WH-10: standing water present after precipitation events ST-3: dense vegetation is present but mowed Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Herpetofauna, avian, small mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix petiolaris			PEM	Common
Carex lacustris			PEM	Abundant
Phalaris arundinacea			PEM	Common
Calamagrostis canadensis			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of plant community expected within a disturbed roadside ditch, with some invasive species cover present. Vegetation is mowed at the time of the survey.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Χ	Х		М	С	Point source or stormwater discharge
X	Х		М	С	Polluted runoff
					Pond construction
	Х		М	С	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Χ	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
X			Н	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х			М	С	Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
			İ		Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The artificial wetland is impacted by the adjacent gravel roadway and associated stressors. The vegetation is mostly
mowed. There is a corn field abutting the ditch to the south spanning the entirety of the linear feature. Invasive
species cover is present within the wetland.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Disturbed vegetation, mowed consistently, invasive species present
Human Use Values	Visible to public but no recreational opportunities
Wildlife Habitat	Mowed vegetation limits availability of habitats within the represented stratum
Fish and Aquatic Life Habitat	Potential standing water after precipitation events may support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Linear feature, dense vegetation has been mowed, receives runoff from roadway and agriculture
Water Quality Protection	See above
Groundwater Processes	Saturated for extended periods of time, recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Cour	ity: Ashland		Sampling Date: 2019-10-03			
Applicant/Owner: Enbridge							
Investigator(s): SAM/KDF				· -			
Landform (hillslope, terrace, etc.): Rise							
Subregion (LRR or MLRA): Northcentral Forests Lat: 2							
Soil Map Unit Name: Portwing-Herbster comp							
Are climatic / hydrologic conditions on the site typical for t	•	•					
Are Vegetation, Soil, or Hydrology							
Are Vegetation, Soil, or Hydrology			explain any answers	,			
SUMMARY OF FINDINGS – Attach site ma	p showing sampli	ng point locatio	ns, transects,	important features, etc.			
Hydrophytic Vegetation Present? Yes	No <u>√</u> Is	the Sampled Area					
Hydric Soil Present? Yes	3.45	thin a Wetland?	Yes	No/			
Wetland Hydrology Present? Yes		yes, optional Wetland	Site ID:				
Remarks: (Explain alternative procedures here or in a s Roadside ditch bank associated with		feature. A fiel	d dedicated	to row crops is			
directly south. Area still with standing		10010.101.1.1.1	4 404.04.12	10 1011 010 00			
directly estation rules state that state and							
HADDOL OCA							
HYDROLOGY Wetland Hydrology Indicators:			Secondary Indicat	ors (minimum of two required)			
Primary Indicators (minimum of one is required; check a	all that annly)		Surface Soil Cracks (B6)				
		Drainage Patt					
	· , ,						
	larl Deposits (B15)		Moss Trim Lines (B16) Dry-Season Water Table (C2)				
	ydrogen Sulfide Odor (0	C1)	Crayfish Burrows (C8)				
	xidized Rhizospheres o						
	resence of Reduced Iro		Stunted or Stressed Plants (D1)				
	ecent Iron Reduction in	Tilled Soils (C6)					
	hin Muck Surface (C7)		Shallow Aquitard (D3)				
	ther (Explain in Remark	is)	Microtopographic Relief (D4) FAC-Neutral Test (D5)				
Sparsely Vegetated Concave Surface (B8)			FAC-Neutrai	Test (D5)			
Field Observations:  Surface Water Present? Yes No _ ✓ _ [	South (inchas):						
Water Table Present? Yes No V E							
Saturation Present? Yes No ✓ I			ludrology Present	t? Yes No√			
(includes capillary fringe)				1! 165 NO			
Describe Recorded Data (stream gauge, monitoring well	I, aerial photos, previou	is inspections), if ava	ilable:				
Remarks:							
No primary or secondary indicators of	wetland hydrol	ogy. Upland ro	oughly two fe	et higher than the			
wetland basin.							

# **VEGETATION** – Use scientific names of plants.

Indicator Status  Cover  FAC FACU FACU FACU FACU FACU FACU	Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC:
Cover  FAC FACU FACW UPL FACU	That Are OBL, FACW, or FAC:
Cover  FAC FACU FACW UPL FACU	Species Across All Strata:
Cover  FAC FACU FACW UPL FACU	Percent of Dominant Species That Are OBL, FACW, or FAC:    50.0   (A/B)
Cover  FAC FACU FACW UPL FACU	Prevalence Index worksheet:
Cover  FAC FACU FACW UPL FACU	Total % Cover of:  OBL species  O.0  FACW species  20.0  FAC species  25.0  FACU species  62.0  Column Totals:  127.0  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACU FACW FACU	OBL species
FACU FACU FACW FACU	FACW species 20.0 x 2 = 40.0  FAC species 25.0 x 3 = 75.0  FACU species 62.0 x 4 = 248.0  UPL species 20.0 x 5 = 100.0  Column Totals: 127.0 (A) 463.0 (B)  Prevalence Index = B/A = 3.6  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
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FACU FACU FACW FACU	Column Totals:
FACU FACU FACW FACU	Prevalence Index = B/A = 3.6  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
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FACU FACU FACW FACU FACU	1 - Rapid Test for Hydrophytic Vegetation     2 - Dominance Test is >50%     3 - Prevalence Index is ≤3.0¹     4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACU FACW FACU FACU	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACW UPL FACU	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACW UPL FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACW UPL FACU	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU FACW UPL FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACW UPL FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
UPL FACU	'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
FACU	
	Definitions of Vegetation Strata:
FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
FACU	at breast height (DBH), regardless of height.
	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
<u>FACU</u>	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
	Woody vines – All woody vines greater than 3.28 ft in
Cover	height.
	Hydrophytic
	Vegetation
Cover	Present? Yes No✓
30101	
	FACU FACU Cover

SOIL Sampling Point: wasb042\_u

Profile Description: (Describe to the d	-			or confirm	the absence of inc	dicators.)
Depth Matrix		x Features		. 2	<b>-</b> .	5 .
(inches) Color (moist) %	Color (moist)	% 	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
17 000 11 000 11 00					21 11 21	
<sup>1</sup> Type: C=Concentration, D=Depletion, R <b>Hydric Soil Indicators:</b>	M=Reduced Matrix, MS	5=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.  roblematic Hydric Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 14)	2 cm Muck ( Coast Prairie 5 cm Mucky Dark Surface Polyvalue Be Thin Dark St Iron-Mangar Piedmont Fle Mesic Spodi Red Parent Very Shallov Other (Explain	(A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L) elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L) nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B) ic (TA6) (MLRA 144A, 145, 149B) Material (F21) w Dark Surface (TF12) ain in Remarks)				
Type: Depth (inches):					Hydric Soil Pres	ent? Yes No <u>√</u>
Remarks: Soils not evaluated due to the on the landscape position and	ne potential for			s. Soils		



wasb042\_u\_E



wasb042\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-09-26			
Applicant/Owner: Enbridge						
Investigator(s): ARK/KDF						
Landform (hillslope, terrace, etc.): Depression						
Subregion (LRR or MLRA): Northcentral Forests Lat						
Soil Map Unit Name: Portwing-Herbster cor						
Are climatic / hydrologic conditions on the site typical f	or this time of year? Yes ✓ \	· No (If no, explain in R	emarks.)			
Are Vegetation, Soil, or Hydrology	•					
Are Vegetation, Soil, or Hydrology		If needed, explain any answe				
SUMMARY OF FINDINGS - Attach site n	nap showing sampling poi	nt locations, transects	, important features, etc.			
Hydrophytic Vegetation Present? Yes ✓	No Is the Sam	pled Area				
	No within a W	etland? Yes <u>√</u>	No			
		nal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in						
Shrub-Carr; part of a PSS-PFO con	nplex. Feature shares u	pland point wase022	2_u.			
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)			
Primary Indicators (minimum of one is required; chec	ck all that apply)					
	Water-Stained Leaves (B9)	Drainage Pa				
	Aquatic Fauna (B13)		Moss Trim Lines (B16)			
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Dry-Season Water Table (C2)			
	Hydrogen Sulfide Odor (C1)	Crayfish Bur				
	Oxidized Rhizospheres on Living		isible on Aerial Imagery (C9)			
	Presence of Reduced Iron (C4)		tressed Plants (D1)			
	Recent Iron Reduction in Tilled So					
	Thin Muck Surface (C7) Other (Explain in Remarks)	Shallow Aquitard (D3)  Microtopographic Relief (D4)				
	Other (Explain in Remarks)	✓ Microtopographic Relief (D4)  ✓ FAC-Neutral Test (D5)				
Sparsely Vegetated Concave Surface (B8)  Field Observations:		<u>√</u> FAC-Neutral	Test (D3)			
	Depth (inches):					
	Depth (inches):					
	Depth (inches):	Wetland Hydrology Preser	nt? Yes ✓ No			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	tions), if available:				
Remarks:						
Seasonally saturated recharge wetl	and.					

**VEGETATION** – Use scientific names of plants.

rit Indicator Status  Status  FACW  OVER  OUT  OUT  OUT  OUT  OUT  OUT  OUT  OU	Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  Total % Cover of:  Multiply by:  OBL species  97  X 1 = 97  FACW species  30  X 2 = 60  FAC species  0  X 3 = 0  FACU species  0  X 4 = 0  UPL species  0  X 5 = 0  Column Totals:  127  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
over  FACW  over  OBL OBL OBL	That Are OBL, FACW, or FAC:				
FACW  Over  OBL OBL OBL	Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  Total % Cover of:  Multiply by:  OBL species  97  X 1 = 97  FACW species  30  X 2 = 60  FAC species  0  X 3 = 0  FACU species  0  X 4 = 0  UPL species  0  X 5 = 0  Column Totals:  127  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
over  FACW  Over  OBL  OBL  OBL	Species Across All Strata: 2 (B)   Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)   Prevalence Index worksheet:				
FACW  Over  OVER	That Are OBL, FACW, or FAC:				
FACW FACW Over  OBL OBL OBL	Prevalence Index worksheet:				
FACW  FACW  Over  OBL OBL OBL	Total % Cover of: Multiply by:  OBL species 97 x 1 = 97  FACW species 30 x 2 = 60  FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 127 (A) 157 (B)  Prevalence Index = B/A = 1.24  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
FACW  FACW  Ower  OBL OBL OBL	OBL species $97$ $\times 1 = 97$ FACW species $30$ $\times 2 = 60$ FAC species $0$ $\times 3 = 0$ FACU species $0$ $\times 4 = 0$ UPL species $0$ $\times 5 = 0$ Column Totals: $127$ (A) $157$ (B)  Prevalence Index = B/A = $1.24$ Hydrophytic Vegetation Indicators: $\begin{array}{ccccccccccccccccccccccccccccccccccc$				
FACW  FACW  OWER  OBL OBL OBL	FACW species 30 x 2 = 60  FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 127 (A) 157 (B)  Prevalence Index = B/A = 1.24  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
over  OBL OBL OBL	FAC species $0$ $x 3 = 0$ FACU species $0$ $x 4 = 0$ UPL species $0$ $x 5 = 0$ Column Totals: $127$ (A) $157$ (B)  Prevalence Index $= B/A = 1.24$ Hydrophytic Vegetation Indicators: $\checkmark$ 1 - Rapid Test for Hydrophytic Vegetation $\checkmark$ 2 - Dominance Test is >50% $\checkmark$ 3 - Prevalence Index is $\le 3.0^1$ $\checkmark$ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)				
over  OBL OBL OBL	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 127 (A) 157 (B)  Prevalence Index = B/A = 1.24  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
over  OBL OBL OBL	UPL species 0 x 5 = 0 Column Totals: 127 (A) 157 (B)  Prevalence Index = B/A = 1.24  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
over  OBL OBL OBL	Column Totals:				
OBL OBL OBL	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
OBL OBL OBL	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)				
OBL OBL OBL	<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> <li>3 - Prevalence Index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> </ul>				
OBL OBL OBL	<ul> <li>✓ 2 - Dominance Test is &gt;50%</li> <li>✓ 3 - Prevalence Index is ≤3.0¹</li> <li>— 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> </ul>				
OBL OBL OBL	<ul> <li>✓ 3 - Prevalence Index is ≤3.0¹</li> <li>— 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</li> </ul>				
OBL OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
OBL OBL	data in Remarks or on a separate sheet)				
OBL					
	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)				
OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
OBL					
	Definitions of Vegetation Strata:				
	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
	Woody vines – All woody vines greater than 3.28 ft in				
	height.				
over					
	Hydrophytic				
	Vegetation Present? Yes ✓ No				
over					
	over over				

SOIL Sampling Point: wase023s\_w

Profile Des	cription: (Describe t	o the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	of indicators.)			
Depth	Matrix				x Features		. 2	<b>-</b> .	5			
(inches) 0-8	Color (moist) 10YR 2/1	100	Color (m	<u>noist)</u>	<u> </u>	Type'	Loc <sup>2</sup>	Texture M	Remarks			
8-18	101R 2/1	100						MMI				
	2.5Y 2.5/1		7.5YR	5/8	20	С	M	C	Prominent redox concentrations			
	10YR 6/1	40	7.011	0/0				C				
	oncentration, D=Depl	etion, RM	=Reduced M	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :			
_	Hydric Soil Indicators:  Histosol (A1)  Polyvalue Below Surface (S8) (LRR R,								Muck (A10) (LRR K, L, MLRA 149B)			
	✓ Histic Epipedon (A2)  MLRA 149B)							Coast Prairie Redox (A16) (LRR K, L, R)  5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
Hydroge	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	I) (LRR K		Dark Surface (S7) (LRR K, L)				
	d Layers (A5) d Below Dark Surface	· (A11)		Gleyed led Matrix	Matrix (F2	)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)				
-	ark Surface (A12)	(A11)			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)				
Sandy I	Mucky Mineral (S1)		Deplet	ed Dark \$	Surface (F	7)		Piedm	nont Floodplain Soils (F19) (MLRA 149B)			
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)				
Stripped	d Matrix (S6)							Very Shallow Dark Surface (TF12)				
Dark Su	urface (S7) (LRR R, M	ILRA 149	В)					Other	(Explain in Remarks)			
	of hydrophytic vegetati	ion and w	etland hydro	logy mus	st be prese	ent, unless	s disturbed	or problemati	С.			
Type:	Layer (if observed):											
	iches):							Hydric Soil	Present? Yes <u>√</u> No			
Remarks:	an alau											
Muck ov	er clay.											



wase023s\_w\_NE



wase023s\_w\_SE

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-09-26		
Applicant/Owner: Enbridge					
Investigator(s): ARK/KDF					
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.38					
Soil Map Unit Name: Portwing-Herbster complex,					
Are climatic / hydrologic conditions on the site typical for this tim	e of year? Yes✓ N	o (If no, explain in R	temarks.)		
Are Vegetation, Soil, or Hydrology signif	icantly disturbed? A	ر «Normal Circumstances»	oresent? Yes No		
Are Vegetation, Soil, or Hydrology natur	ally problematic? (	f needed, explain any answe	rs in Remarks.)		
SUMMARY OF FINDINGS - Attach site map sho	wing sampling poir	nt locations, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes ✓ No	Is the Samp				
Hydric Soil Present? Yes✓ No	*** * ***	tland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:	_		
Remarks: (Explain alternative procedures here or in a separat Hardwood swamp; part of a complex that		`			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that a	apply)				
	tained Leaves (B9)	Drainage Pa			
High Water Table (A2) Aquatic I			Moss Trim Lines (B16)		
Saturation (A3) Marl Dep		· · · · · · · · · · · · · · · · · · ·	Dry-Season Water Table (C2)		
	n Sulfide Odor (C1)	Crayfish Bur			
	I Rhizospheres on Living R		isible on Aerial Imagery (C9)		
	e of Reduced Iron (C4)		tressed Plants (D1)		
	ron Reduction in Tilled Soi ck Surface (C7)	Is (C6) _/ Geomorphic Shallow Aqu			
<u> </u>	xplain in Remarks)	Microtopogra			
Sparsely Vegetated Concave Surface (B8)	Apiairi ir remanoj	Wileretepegre			
Field Observations:		<u> </u>	. 551 (25)		
Surface Water Present? Yes No✓ Depth (i	inches):				
Water Table Present? Yes No ✓ Depth (i					
Saturation Present? Yes No✓ Depth (i		Wetland Hydrology Preser	nt? Yes/ No		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspecti	ons), if available:			
		,-			
Remarks:   Seasonally saturated recharge feature.					
Codomany datarated reenarge reature.					

**VEGETATION** – Use scientific names of plants.

<b>EGETATION</b> – Use scientific names of plants.					Jai	lipiling F	oint: wase(	0231_W
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	workshee	et:		
1. Acer rubrum				Number of Domina That Are OBL, FAG		es C	3	(Δ)
2. Fraxinus pennsylvanica								. (^)
3. <u>Ulmus americana</u>				Total Number of Dominant Species Across All Strata:  3				(B)
								. (5)
4				Percent of Domina That Are OBL, FA			00.00	(A/B)
5				,				. ( . ,
6.				Prevalence Index				
7		· .		Total % Cover			ıltiply by:	
	95	= Total Co	ver	OBL species				
Sapling/Shrub Stratum (Plot size:)				FACW species				
1				FAC species				
2				UPL species				
3	-			Column Totals:				
4								
5				Prevalence I	ndex = B	/A =	1.99	
6	_			Hydrophytic Vege	etation In	dicators	:	
7				1 - Rapid Test	for Hydro	phytic Ve	egetation	
		= Total Co		2 - Dominance	e Test is >	50%		
Herb Stratum (Plot size: 5' )				✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
1. <u>Calamagrostis canadensis</u>	60	Υ	OBL	<ul> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> </ul>				
2. <u>Phalaris arundinacea</u>		N N	FACW					
3. <u>Onoclea sensibilis</u>		NI	FACW		, ,	Ü	` '	,
		NI	OBL	<sup>1</sup> Indicators of hydri				must
4. <u>Scirpus cyperinus</u>				be present, unless	disturbed	or proble	ematic.	
5. <u>Iris virginica</u>			OBL	Definitions of Veg	getation S	Strata:		
6. <u>Glyceria canadensis</u>			OBL	Tree – Woody plan				amete
7. <u>Bidens frondosa</u>		_N	FACW	at breast height (D	BH), rega	rdless of	height.	
8. <u>Juncus effusus</u>			OBL	- Saping/sinub - Woody plants less than 3 in. DBH			ВН	
e. <i>Persicaria sagittata</i>	_ 1	N	OBL	and greater than or equal to 3.28 ft (1 m) tall.				
10	_			Herb – All herbace				ardless
11	-			of size, and woody	plants le	ss than 3	.28 ft tall.	
12				Woody vines – Al	I woody v	ines grea	ter than 3.2	28 ft in
	89	= Total Co	ver	height.				
Woody Vine Stratum (Plot size:)								
1	_							
2								
3				Hydrophytic				
4				Vegetation				
	_	- Total Co	ver	Present?	Yes	<u>√</u> No	°——	
Remarks: (Include photo numbers here or on a separate s Sample plot is representative.		= Total Co	ver	Tresent:	165	<u>v                                    </u>		

SOIL Sampling Point: wase023f\_w

Profile Desc	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)			
Depth	Matrix				x Feature			<b>-</b> .	5			
(inches)	Color (moist) 10YR 2/1	100	Color (m	noist)	%	_Type'	_Loc <sup>2</sup>	Texture M	Remarks			
4-10	101R 2/1	100						Cl				
10-13		100						SC				
	2.5YR 4/4	60	7.5YR	6/8	20	С	М	C	Prominent redox concentrations			
	2.5YR 8/1	20						С				
					·							
<sup>1</sup> Type: C=C <b>Hydric Soil</b>	oncentration, D=Depl	etion, RM	=Reduced M	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :			
Histosol	(A1)		Polyva	lue Belov	w Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )			
	pipedon (A2) istic (A3)			RA 149B) ark Surfa		RRR M	LRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)  5 cm Mucky Peat or Peat (S3) (LRR K, L, R)				
Hydroge	en Sulfide (A4)		Loamy	Mucky M	/lineral (F	1) ( <b>LRR K</b>		Dark Surface (S7) (LRR K, L)				
	d Layers (A5) d Below Dark Surface	. (Δ11)		Gleyed I ed Matrix	Matrix (F2	2)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)				
	ark Surface (A12)	# (ATT)			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)				
	Mucky Mineral (S1)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)				
	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Parent Material (F21)			
Stripped	Matrix (S6)							Very Shallow Dark Surface (TF12)				
Dark Su	rface (S7) (LRR R, N	ILRA 149	3)					Other	(Explain in Remarks)			
	f hydrophytic vegetat		etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	С.			
Type:	Layer (if observed):											
	ches):							Hydric Soi	I Present? Yes No			
Remarks:												
Surface	layer of muck.											



wase023f\_w\_N



wase023f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK			
File #: wase023	Date of visit(s): 09/26/2019			
Location: PLSS: 045N-003W-07	Ecological Landsca Superior Coastal Plain	ipe:		
Lat: 46.386283 Long: -90.779648  County: Ashland Town/City/Village: Ashland town	Watershed: LS12, Marengo River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class:			
480B Portwing-Herbster complex, 713B Kellogg-Allendale-Ashwabay complex	Wetland Type(s): PSS/PFO complex - shrub-carr/hardwood swamp			
Field Verified: Series not verified. In the forested component, soils were a muck over clay loam over sandy clay over clay. In the shrub	Wetland Size: 0.47	Wetland Area Impacted 0.47		
component soils were a muck over mucky mineral over clay.	Vegetation: Plant Community Description(s): Two PSS wetlands are present on either side of the PFO wetland. Within the shrub-carr community, the shrub layer is dominated by Salix petiolaris, and Carex lacustris dominates the herbaceous layer. Within the hardwood swamp, the canopy is dominated by Acer rubrum. Calamagrostis canadensis dominates the herbaceous layer.			
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.				

 SITE MAP

### **SECTION 1: Functional Value Assessment**

1 N Y Used for recreation (hunting, birding, hiking, etc.). List-Hunting 2 N N Usuality or physically accessible to public 4 N Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas List. 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 1 Y Y Wetland and contiguous habitat for endangered, threatened or special concern species 1 N N Within or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N Y 100 m buffer - natural land cover >20%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the Wil All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present >25 days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Standing water provides habitat for amphibians and aquatic invertebrates 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FFA N N Wetland is connected or contiguous with perennial stream or lake 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aqualic system 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aqualic system 4 N N Vegetation water provides habitat for anythiopina provides within aqualic			ECTION 1:	Functional Value Assessment
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3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A	3	N	N	
Solution	4			
S		- ' '		
Fig.   Fig.	5	N	N	
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	N	
Wildlife Habitat		IN	IN	
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4 N				
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1       Y       Y       Provides substantial storage of storm and floodwater based on previous section         2       Y       Y       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       N       N       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%		N	N	
2 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic				
3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic				
4       N       N       Vegetated wetland associated with a lake or stream         5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%				
5       Y       Y       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	-	Υ	Υ	
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic	4	N	N	
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	5	Y	Υ	Dense, persistent vegetation
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       N       N       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8     N     N     Discharge to surface water       9     N     N     Natural land cover in 100m buffer area < 50%	-			
9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 Y Y Wetland remains saturated for an extended time period with no additional water inputs  4 N Y Wetland soils are organic				
GW Groundwater Processes  1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic				
1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic			- 1	
2 N N Location near a groundwater divide or a headwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic	-	NI.	NI NI	
3 Y Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Y Wetland soils are organic				
4 N Y Wetland soils are organic				
			i	
5   N   N   Wetland is within a wellhead protection area			_	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: private land HU-4: diverse wetland complex and habitats, impacted by logging and earthworm activity WH-4: a road is present somewhat close to the wetland, but it is possible that this cuts off less than 25% of the wetland buffer area WH-6: PFO/PSS complex WQ-1: dense herbaceous vegetation, closed basin Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Abundant
Fraxinus pennsylvanica			PFO	Common
Ulmus americana			PFO	Uncommon
Calamagrostis canadensis			PFO	Abundant
Phalaris arundinacea			PFO	Common
Onoclea sensibilis			PFO	Uncommon
Scirpus cyperinus			PFO, PSS	Uncommon
Iris virginica			PFO	Uncommon
Glyceria canadensis			PFO, PSS	Uncommon
Bidens frondosa			PFO	Uncommon
Juncus effusus			PFO	Uncommon
Persicaria sagittata			PFO	Uncommon
Salix petiolaris			PSS	Common
Carex lacustris			PSS	Abundant
Comarum palustre			PSS	Uncommon
Acorus americanus			PSS	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation within both plant communities is comprised of mostly native vegetation, although a small amount of invasive cover (Phalaris arundinacea) was observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Χ				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Χ		L	U	Point source or stormwater discharge
	Х		L	U	Polluted runoff
					Pond construction
					Agriculture – row crops
	Χ		L	U	Agriculture – hay
					Agriculture – pasture
	Χ		L	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		D 4	0	Removal of herbaceous stratum – mowing,
Х	X		M	С	grading, earthworms, etc.
Х	Х	NA	N.4	С	Removal of tree or shrub strata – logging,
^	^		M		unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Χ		M	С	Cover of non-native and/or invasive species
	Χ		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The PSS wetland is relatively undisturbed; PFO is primarily impacted by logging activity and earthworm activity. The
surrounding area is mostly impacted by logging activity and other stressors, such as a nearby road. Phalaris
arundinacea is present in the wetland.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values		<b>✓</b>			
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection			<b>√</b>		
Groundwater Processes		<b>√</b>			

FUNCTION	RATIONALE					
Floristic Integrity	Somewhat disturbed with weedy species present, but still a decent variety of species. Phalaris arundinacea was observed					
Human Use Values	Private land, moderate aesthetic due to diverse habitat areas, logging stressor					
Wildlife Habitat	Wetland complex with diverse assemblage of available habitat					
Fish and Aquatic Life Habitat	No standing water					
Shoreline Protection						
Flood and Stormwater Storage	Closed basin, dense herbaceous vegetation within PSS wetlands					
Water Quality Protection	See above					
Groundwater Processes	Recharge hydrology, saturated for extended periods of time					

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-26		
Investigator(s): ARK/KDF	Section, Townshi	p, Range: <u>045N-003W-</u>	07		
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.386728	Long: -90.779928	Datum: WGS84		
Soil Map Unit Name: Kellogg-Allendale-As					
Are climatic / hydrologic conditions on the site typic	•	•			
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes	No ✓ Is the San	npled Area			
		Vetland? Yes	No <u>√</u>		
		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here of		d with wotland wasa	022		
Mesic hardwood forest. This uplan	nd sample point is shared	ı willi wellanu wase	023.		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soi	l Cracks (B6)		
	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)		
	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
	Marl Deposits (B15)	·	Dry-Season Water Table (C2)		
	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living				
1 — · · · · ·	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)			
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>				
	Other (Explain in Remarks)	Shallow Aquitard (D3) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		al Test (D5)		
Field Observations:			11 1001 (20)		
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>		
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring)	og well goviel photog provious inone	ations) if availables			
Describe Recorded Data (Stream gauge, monitorii	ng wen, aenai priotos, previous insper	silons), ii avaliable.			
Remarks:					
No indicators of wetland hydrolog	y were observed.				

**VEGETATION** – Use scientific names of plants.

			Sampling Point: <u>wase022_u</u>			
Absolute % Cover			Dominance Test worksheet:			
			Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
			Total Number of Dominant Species Across All Strata:4 (B)			
			Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)			
			Prevalence Index worksheet:			
			Total % Cover of: Multiply by:			
105	= Total Co	over	OBL species 0 x 1 = 0			
			FACW species 35 x 2 = 70 FAC species 57 x 3 = 171			
20	<u>Y</u>	_FAC_	FACU species 41 x 4 = 164			
·			UPL species x = UPL species 0 x = 0			
			Column Totals: 133 (A) 405 (B)			
			Prevalence Index = B/A = 3.05			
			Hydrophytic Vegetation Indicators:			
			1 - Rapid Test for Hydrophytic Vegetation			
20	= Total Co	over	2 - Dominance Test is >50%			
			3 - Prevalence Index is ≤3.0¹			
5	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)			
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
			Definitions of Vegetation Strata:			
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
			Herb – All herbaceous (non-woody) plants, regardless			
			of size, and woody plants less than 3.28 ft tall.			
			Woody vines – All woody vines greater than 3.28 ft in			
	- Total Co		height.			
	= Total CC	)vei				
4	NI	EACH				
	-	<del>-</del>	Hydrophytic			
			Hydrophytic Vegetation Present?  Yes No✓			
	% Cover 35 20 15 15 15 5 20 20 20 5 2 2 7 1 1	Species 7	## Cover   Species?   Status			

SOIL Sampling Point: wase022\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of i	ndicators.)
Depth	Matrix	0/		x Features		1.2.2	Tandona	Damada
(inches)	Color (moist) 10YR 2/1	100	Color (moist)	%	Type'	Loc <sup>2</sup>	SL	Remarks
							SL	
5-12	5YR 3/3	100					SL	
		· —— ·						
		· ·		·				
		. ——						
		. ———						
	_	· ——						-
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	Location: Pl	L=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	w Surface	(S8) ( <b>LRF</b>	RR,		(A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	)			Coast Prai	rie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					xy Peat or Peat (S3) ( <b>LRR K, L, R</b> ) ace (S7) ( <b>LRR K, L</b> )
	d Layers (A5)	•	Loamy Gleyed			, =/		Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)		_	anese Masses (F12) ( <b>LRR K, L, R</b> ) Floodplain Soils (F19) ( <b>MLRA 149B</b> )
-	Gleyed Matrix (S4)		Redox Depress		• ,			dic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							nt Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149B	)					ow Dark Surface (TF12) olain in Remarks)
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: R							Hydric Soil Pre	esent? Yes No/_
Depth (in Remarks:	ches): <u>12</u>						Hydric 30ii Fre	sent: les No_v
	ators of hydric	soils w	ere observed	. Soil p	rofile r	ot sam	pled below	12 inches due to
	ice of woody r						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	•							



wase022\_u\_N



wase022\_u\_S

Project/Site: Line 5 Reloc	cation Project	City/C	County: Ashland		Sampling Date: 2019-09-26	
Applicant/Owner: Enbridge	•				Sampling Point: wase022e_w	
Investigator(s): ARK/KDF						
					Slope (%): <u>0-2%</u>	
					Datum: WGS84	
					eation:	
Are climatic / hydrologic conditi						
					present? Yes No✓	
Are Vegetation, Soil						
					, important features, etc.	
					, important reatures, etc.	
Hydrophytic Vegetation Prese	within a Watland?				No	
Hydric Soil Present? Wetland Hydrology Present?		✓ No ✓ No				
Remarks: (Explain alternative			If yes, optional wetia	nd Site ID:		
HYDROLOGY						
Wetland Hydrology Indicato	ors:			Secondary Indica	ators (minimum of two required)	
Primary Indicators (minimum	of one is required; ch	neck all that apply)		Surface Soil	Cracks (B6)	
Surface Water (A1)		Water-Stained Leave		Drainage Patterns (B10)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Li		
Saturation (A3)		Marl Deposits (B15)		Dry-Season		
<ul><li>Water Marks (B1)</li><li>Sediment Deposits (B2)</li></ul>		Hydrogen Sulfide Od		Crayfish Bur	isible on Aerial Imagery (C9)	
Drift Deposits (B3)		Oxidized Knizospher Presence of Reduce			tressed Plants (D1)	
Algal Mat or Crust (B4)	=	Recent Iron Reduction	, ,	Geomorphic		
Iron Deposits (B5)		Thin Muck Surface (		Shallow Aqui		
Inundation Visible on Aer	ial Imagery (B7)	Other (Explain in Rei	marks)	Microtopogra		
Sparsely Vegetated Cond	cave Surface (B8)			_✓ FAC-Neutral	Test (D5)	
Field Observations:						
Surface Water Present?		<pre> Depth (inches):</pre>				
Water Table Present?		/ Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes No,	/ Depth (inches):	Wetland	I Hydrology Presen	t? Yes <u>√</u> No	
Describe Recorded Data (stre	eam gauge, monitorir	ng well, aerial photos, pre	evious inspections), if a	vailable:		
Remarks:						
Seasonally saturate	d recharge we	etland.				
	9					

**VEGETATION** – Use scientific names of plants.

	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)			Status_	Number of Dominant Species
1				That Are OBL, FACW, or FAC:1 (A)
2	_			Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7.				Total % Cover of: Multiply by:
		= Total Co		OBL species x1 = 50
Sapling/Shrub Stratum (Plot size: 15' )		- 10101 00	,,,,,	FACW species12 x 2 =24
				FAC species 2 x 3 = 6
1				FACU species15 x 4 =60
2				UPL species0 x 5 =0
3	_			Column Totals: <u>79</u> (A) <u>140</u> (B)
4				Provolence Index P/A 1.77
5				Prevalence Index = B/A =1.77
6	<u> </u>			Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
	0	= Total Co	over	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. <u>Juncus effusus</u>	50	Y	OBL	data in Remarks or on a separate sheet)
2. Plantago major	10	N	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Poa palustris</u>	5	N	<u>FACW</u>	The disease of budging of land westered budgets on a sect
4. Persicaria pensylvanica	5	N	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Taraxacum officinale	5	Ν	FACU	Definitions of Vegetation Strata:
6. Echinochloa crus-galli		N	FAC	Definitions of Vegetation Strata.
7. Carex scoparia		N	FACW	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12			-	<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
		= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1	_			
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0	= Total Co	over	100 <u> </u>
Remarks: (Include photo numbers here or on a separate Red clover and tall fescue are present it is assumed they were planted.		out, but	t were no	ot included in the calculations because

Sampling Point: wase022e\_w

SOIL Sampling Point: wase022e\_w

Profile Desc	ription: (D	escribe t	o the dep	oth needed	to docun	nent the ir	ndicator	or confirm	the absence	e of indicators.)	
Depth (inches)		Matrix	0/	Color (n		K Features	1	1002	Toyeturo	Domonico	
(inches) 0-14	Color (r		<u>%</u> 95	7.5YR		 5	Type'	Loc <sup>2</sup>	Texture CI	Remarks  Prominent redox concentrations	
				-			$\overline{}$				
14-20  Type: C=Cc Hydric Soil Histosol	oncentration Indicators:	n, D=Depl			Matrix, MS				Indicators	Prominent redox concentrations  PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils³:  Muck (A10) (LRR K, L, MLRA 149B)	
Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, MLRA 149B)  Black Histic (A3) — Thin Dark Surface (S9) (LRR R, MLRA 149B)  Stratified Layers (A5) — Loamy Mucky Mineral (F1) (LRR K, L)  Depleted Below Dark Surface (A11) — Depleted Matrix (F2)  Depleted Matrix (F3) — Polyvalue Below Surface (S9) (LRR R, MLRA 149B)  Thin Dark Surface (S9) (LRR R, MLRA 149B  Loamy Mucky Mineral (F1) (LRR K, L)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Polyvalue Below Surface (S9) (LRR R, MLRA 149B)						LRA 149B)	Coast 5 cm l Dark S Polyva Thin E Iron-M Piedm Mesic Red P Very S	Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)  Surface (S7) (LRR K, L)  alue Below Surface (S8) (LRR K, L)  Dark Surface (S9) (LRR K, L)  Manganese Masses (F12) (LRR K, L, R)  mont Floodplain Soils (F19) (MLRA 149B)  Spodic (TA6) (MLRA 144A, 145, 149B)  Parent Material (F21)  Shallow Dark Surface (TF12)  (Explain in Remarks)			
<sup>3</sup> Indicators of			ion and w	etland hydro	ology mus	t be prese	nt, unles	s disturbed o	or problemati	с.	
Restrictive I	Layer (if ob	served):									
Type: Depth (in	ches):								Hydric Soil	I Present? Yes/ No	
Remarks: Loamy so	oils with	redox									



wase022e\_w\_S



wase022e\_w\_W

Project/Site: Line 5 Reloc	cation Proiec	t	City/County: As	shland		Sampling Date:	2019-09-26
Applicant/Owner: Enbridge	•						
· ·			Section, Townsh				
			Local relief (concav				
			46.387375				
			abay complex, 2 to 6 pe				
			or this time of year? Yes✓				
			significantly disturbed?				/ No
			naturally problematic?				
							oturos ete
SUMMARY OF FINDING	— Attach Si	te II	nap showing sampling po			, important rea	atures, etc.
Hydrophytic Vegetation Prese			_ '''	mpled Area	Yes <u>√</u>	No	
Hydric Soil Present?			_ 110				
Wetland Hydrology Present?  Remarks: (Explain alternative				tional Wetlan	nd Site ID:		
		<b>.</b>	dominated upland fore	o.,	ome mat op	on camepy.	
HYDROLOGY							
Wetland Hydrology Indicato	ors:				Secondary Indica	ators (minimum of t	wo required)
Primary Indicators (minimum	of one is required;	chec	k all that apply)		Surface Soil	Cracks (B6)	
Surface Water (A1)		✓	Water-Stained Leaves (B9)		Drainage Pa	tterns (B10)	
High Water Table (A2)		_	Aquatic Fauna (B13)		Moss Trim Li		
Saturation (A3)			Marl Deposits (B15)			Water Table (C2)	
Water Marks (B1)			Hydrogen Sulfide Odor (C1)		Crayfish Bur		
Sediment Deposits (B2)			Oxidized Rhizospheres on Livin	g Roots (C3)			
Drift Deposits (B3)			Presence of Reduced Iron (C4)	0 '' (00)		tressed Plants (D1	)
Algal Mat or Crust (B4)			Recent Iron Reduction in Tilled	Soils (C6)	Geomorphic		
Iron Deposits (B5) Inundation Visible on Aer	rial Imagan, (P7)		Thin Muck Surface (C7) Other (Explain in Remarks)		Shallow Aqui		
Sparsely Vegetated Cond		_	Other (Explain in Remarks)		✓ Microtopogra		
Field Observations:	Jave Surface (Bo)				<u>√</u> 1 AC-Neutlai	Test (D3)	
Surface Water Present?	Yes No	/	Depth (inches):				
Water Table Present?			Depth (inches):				
Saturation Present?			Depth (inches):		Hydrology Presen	nt? Yes <u>√</u>	No
(includes capillary fringe)	om gougo monito	ring	well, aerial photos, previous inspe	actions) if ou	railabla:		
Describe Recorded Data (Site	am gauge, monito	illig v	weii, aeriai priotos, previous irispi	ections), ii av	allable.		
Remarks:		- 41					
Seasonally saturate	d recharge w	/etla	and.				

1. Acer rubrum       40         2. Fraxinus pennsylvanica       5         3. Ulmus americana       2         4. Picea glauca       2         5	Species Y N N N Total C	FACW FACU FACU FACU FACW FACW	Dominance Test worksheet:           Number of Dominant Species           That Are OBL, FACW, or FAC:         3         (A)           Total Number of Dominant         3         (B)           Percent of Dominant Species         100.00         (A/B)           Percent of Dominant Species         100.00         (A/B)           Prevalence Index worksheet:         Multiply by:         0           OBL species         86         x 1 = 86           FACW species         27         x 2 = 54           FAC species         42         x 3 = 126           FACU species         13         x 4 = 52           UPL species         0         x 5 = 0           Column Totals:         168         (A)         318         (B)
1. Acer rubrum       40         2. Fraxinus pennsylvanica       5         3. Ulmus americana       2         4. Picea glauca       2         5		FACW FACU FACW FACU FACU FACU	That Are OBL, FACW, or FAC:       3       (A)         Total Number of Dominant Species Across All Strata:       3       (B)         Percent of Dominant Species That Are OBL, FACW, or FAC:       100.00       (A/B)         Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       86       x 1 =       86         FACW species       27       x 2 =       54         FAC species       42       x 3 =       126         FACU species       13       x 4 =       52         UPL species       0       x 5 =       0         Column Totals:       168       (A)       318       (B)
2. Fraxinus pennsylvanica       5         3. Ulmus americana       2         4. Picea glauca       2         5.       —         6.       —         7.       —         49       Sapling/Shrub Stratum (Plot size:	N	FACW FACU FACU FACU FACW FACW	Total Number of Dominant Species Across All Strata:         3         (B)           Percent of Dominant Species That Are OBL, FACW, or FAC:         100.00         (A/B)           Prevalence Index worksheet:         Multiply by:         0BL species         86         x 1 = 86         x 1 = 86         x 2 = 54         x 3 = 126         x 3 = 126
3. <u>Ulmus americana</u> 2 4. <u>Picea glauca</u> 2 5. 6. 7		FACW FACU  Cover  FACW	Species Across All Strata:       3       (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:       100.00       (A/B)         Prevalence Index worksheet:
4. Picea glauca 2 5		FACW	Percent of Dominant Species           That Are OBL, FACW, or FAC:         100.00         (A/B)           Prevalence Index worksheet:
5	_ = Total C	Cover  FACW	That Are OBL, FACW, or FAC:
7	_ = Total C	FACW	Total % Cover of:         Multiply by:           OBL species         86         x 1 = 86           FACW species         27         x 2 = 54           FAC species         42         x 3 = 126           FACU species         13         x 4 = 52           UPL species         0         x 5 = 0           Column Totals:         168         (A)         318         (B)
Sapling/Shrub Stratum       (Plot size:	_ = Total C	FACW	OBL species       86       x 1 =       86         FACW species       27       x 2 =       54         FAC species       42       x 3 =       126         FACU species       13       x 4 =       52         UPL species       0       x 5 =       0         Column Totals:       168       (A)       318       (B)
Sapling/Shrub Stratum       (Plot size:	Y	FACW	
1. Fraxinus nigra 5 2			FAC species $42$ $x3 = 126$ FACU species $13$ $x4 = 52$ UPL species $0$ $x5 = 0$ Column Totals: $168$ (A) $318$ (B)
2			FACU species $13$ $x 4 = 52$ UPL species $0$ $x 5 = 0$ Column Totals: $168$ (A) $318$ (B)
2			UPL species0 x 5 =0 Column Totals:168 (A)318 (B)
3			Column Totals:168 (A)318 (B)
4	-		
5			Dravelance Index D/A 1.00
6			Prevalence Index = B/A = 1.89
7			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:5')			✓ 2 - Dominance Test is >50%
	_ = Total C	Cover	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Fragaria virginiana 10	_ <u></u> N	FACU	Problematic Hydrophytic Vegetation¹ (Explain)
3. Onoclea sensibilis 10	NI	FACW	
	N		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Juncus effusus</u> 5		OBL	be present, unless disturbed or problematic.
5. <u>Equisetum sylvaticum</u> 2		FACW	Definitions of Vegetation Strata:
6. <u>Symphyotrichum lateriflorum</u> 2		_ FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Poa palustris</u> 2		_ FACW	at breast height (DBH), regardless of height.
8. Glyceria canadensis 1		OBL	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Epilobium ciliatum</u> 1	_ <u>N</u> _	<u>FACW</u>	and greater than or equal to 3.28 ft (1 m) tall.
10. <u>Solidago altissima</u> 1	_ <u>N</u> _	<u>FACU</u>	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.			Woody vines – All woody vines greater than 3.28 ft in
	= Total C	`over	height.
	_= 10(a) C	ovei	
Woody Vine Stratum (Plot size: 30')			
1			
2			
3			Hydrophytic Vegetation
4			Present? Yes No
	_ = Total C	Cover	
Remarks: (Include photo numbers here or on a separate sheet.) White cedar and winterberry occur occasional	ly in the	e forested	d wetland.

SOIL Sampling Point: wase022f\_w

Profile Des	cription: (Describe	to the dep	th needed to	docum	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix	0/	Calar (ma		K Features	1	1.5.2	Tasatsuna	Demonto
(inches) 0-4	Color (moist) 10YR 3/2	<u>%</u> 85	Color (mo		<u>%</u> 15	Type'	Loc <sup>2</sup>	Texture CI	Remarks Prominent redox concentrations
4-20	2.5YR 4/8		7.011X	7/0					1 TOTHINGTH TODOX GOTTOCHITATIONS
4-20	2.31K 4/0	_100_							
			-						
	-								
	-								
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM	=Reduced Ma	atrix, MS	=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histoso			Polyvalu	ıe Below	v Surface	(S8) ( <b>LR</b> I	RR,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic E	pipedon (A2)		MLR	A 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)				ce (S9) ( <b>L</b> lineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
	d Layers (A5)			-	Matrix (F2		., <b>L</b> )		alue Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)		d Matrix					Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)				face (F6) Surface (F	7)			langanese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)				ons (F8)	')			Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)								Parent Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149	3)						Shallow Dark Surface (TF12) (Explain in Remarks)
	of hydrophytic vegetat		etland hydrolo	ogy mus	t be prese	ent, unles	s disturbed	or problemati	с.
	Layer (if observed):								
Type:								Hydric Soil	Present? Yes/_ No
Depth (in Remarks:	iches):							riyuric 30ii	rriesent: les v No
	m with redox,	over cla	av.						
Ciay isa		010.	٠,٠						



wase022f\_w\_N



wase022f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK			
File #: wase022	Date of visit(s): 09/26/2019			
Location: PLSS: 045N-003W-07	Ecological Landsca Superior Coastal Plain	pe:		
Lat: 46.387625 Long: -90.779803  County: Ashland Town/City/Village: Ashland town	Watershed: LS12, Marengo River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
713B Kellogg-Allendale-Ashwabay complex	Wetland Type(s): PEM/PFO complex - fresh wet meadow/hardwood swamp			
Field Verified:				
Series not verified. In the forested component soils were a clay loam over clay, and in the emergent component	Wetland Size: 1.51	Wetland Area Impacted 1.51		
soils were a clay loam over a fine sandy loam.	Vegetation: Plant Community D	escription(s):		
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.	Within the hardwood swamp community, the canopy is dominated by Acer saccharum. Fraxinus nigra dominates the shrub layer, and Scirpus cyperinus dominates the herbaceous layer. Within the wet meadow community, Trifolium pratense and Schedonorus arundinaceus (both species likely planted) are the dominate herbaceous vegetation.			

SITE MAR	•		

### **SECTION 1: Functional Value Assessment**

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '		In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	Υ	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST		147	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	Ϋ́	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6			Impervious surfaces cover >10% of land surface within the watershed
-	N	N	
7	N	N	Within a watershed with ≤10% wetland  Potential to hold > 10% of the runoff from contributing area from a 2 year 24 hour ctorm event.
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4			$1 M_{\odot}$ , $a(a(a)) = a(a) + 1 + a(a) + 1 + a(a) + 1 + a(a) + a$
	N	N	Vegetated wetland associated with a lake or stream
5	N	Υ	Dense, persistent vegetation
6	N N	Y N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
6 7	N N Y	Y N Y	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
6 7 8	N N	Y N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7	N N Y	Y N Y	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
6 7 8	N N Y	Y N Y N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
6 7 8 9	N N Y N	Y N Y N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
6 7 8 9 GW 1	N N Y N N	Y N Y N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
6 7 8 9 GW 1 2	N N Y N N	Y N Y N N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
6 7 8 9 GW 1 2 3	N N Y N N N	Y N Y N N N Y	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
6 7 8 9 GW 1 2	N N Y N N	Y N Y N N N N	Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Section 1 Comments (Refer to Section 1 numbers) HU-3: private land but visible from public roadway HU-4: PEM is located within hay field, removal of trees within PFO via logging activity ST-3: logging activity has thinned out tree layer, dense herbaceous vegetation in most areas of wetland WQ-1: closed basin wetland, dense vegetation present in most areas Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian Mammal, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	-			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PFO	Common
Fraxinus pennsylvanica			PFO	Uncommon
Ulmus americana			PFO	Uncommon
Picea glauca			PFO	Uncommon
Fraxinus nigra			PFO	Uncommon
Scirpus cyperinus			PFO	Abundant
Fragaria virginiana			PFO	Common
Onoclea sensibilis			PFO	Uncommon
Juncus effusus			PFO, PEM	Abundant
Equisetum sylvaticum			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon
Poa palustris			PFO, PEM	Uncommon
Glyceria canadensis			PFO	Uncommon
Epilobium ciliatum			PFO	Uncommon
Solidago altissima			PFO	Uncommon
Plantago major			PEM	Uncommon
Persicaria pensylvanica			PEM	Uncommon
Taraxacum officinale			PEM	Uncommon
Echinochloa crus-galli			PEM	Uncommon
Carex scoparia			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Vegetation within both plant communities is comprised of mostly native vegetation, with no observed invasive species other than Plantago major and planted invasive hayfield species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		M	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
Х	Х		Н	С	Agriculture – hay
					Agriculture – pasture
	Х		L	U	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		D 4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
Х	Х	Х	N 4	С	Removal of tree or shrub strata – logging,
X	^	^	M		unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Χ	Х		M	С	Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The PFO wetland is mostly impacted by logging activity resulting in the presence of young growth trees. The PEM
wetland is mostly impacted by the intersecting hay field. The surrounding area is impacted by roadway, agriculture,
and residential land use.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Mostly native vegetation, but the wetland plant communities have been disturbed by present and past human activity and invasive species are present in the hayfield
Human Use Values	Private land, potential hunting use, some diversity of habitats but degraded from logging, earthworms, and agriculture
Wildlife Habitat	All strata represented within wetland complex, part of large habitat block
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, not all areas are densely vegetated. Receives stormwater runoff from the hayfield
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-26				
Investigator(s): ARK/KDF	Section, Township, Range: 045N-003W-07						
Landform (hillslope, terrace, etc.): Talf							
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.386728	Long: -90.779928	Datum: WGS84				
Soil Map Unit Name: Kellogg-Allendale-As							
Are climatic / hydrologic conditions on the site typic	•	•					
Are Vegetation, Soil, or Hydrology _							
Are Vegetation, Soil, or Hydrology _							
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.				
Hydrophytic Vegetation Present? Yes	No ✓ Is the San	npled Area					
		Vetland? Yes	No <u>√</u>				
		onal Wetland Site ID:					
Remarks: (Explain alternative procedures here of		d with wotland wasa	022				
Mesic hardwood forest. This uplan	nd sample point is shared	i willi wellanu wase	023.				
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soi	l Cracks (B6)				
	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)				
	Aquatic Fauna (B13)	Moss Trim I					
	Marl Deposits (B15)	·	Water Table (C2)				
	Hydrogen Sulfide Odor (C1)	Crayfish Bu					
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)				
1 — · · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)				
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>		Position (D2)				
	Other (Explain in Remarks)	Shallow Aqu	raphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		al Test (D5)				
Field Observations:		1710 1100110	11 1001 (20)				
	✓ Depth (inches):						
	✓ Depth (inches):						
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>				
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring)	og well goviel photog provious inone	ations) if availables					
Describe Recorded Data (Stream gauge, monitorii	ng wen, aenai priotos, previous insper	silons), ii avaliable.					
Remarks:							
No indicators of wetland hydrolog	y were observed.						

**VEGETATION** – Use scientific names of plants.

			Sampling Point: <u>wase022_u</u>				
Absolute % Cover			Dominance Test worksheet:				
			Number of Dominant Species That Are OBL, FACW, or FAC: (A)				
			Total Number of Dominant Species Across All Strata:4 (B)				
			Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)				
			Prevalence Index worksheet:				
			Total % Cover of: Multiply by:				
105	= Total Co	over	OBL species 0 x 1 = 0				
			FACW species 35 x 2 = 70 FAC species 57 x 3 = 171				
20	<u> </u>	_FAC_	FACU species 41 x 4 = 164				
·			UPL species x = UPL species 0 x = 0				
			Column Totals: 133 (A) 405 (B)				
			Prevalence Index = B/A = 3.05				
			Hydrophytic Vegetation Indicators:				
			1 - Rapid Test for Hydrophytic Vegetation				
20	= Total Co	over	2 - Dominance Test is >50%				
			3 - Prevalence Index is ≤3.0¹				
5	Υ	FACU	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)				
			Problematic Hydrophytic Vegetation¹ (Explain)				
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
			Definitions of Vegetation Strata:				
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.				
			Herb – All herbaceous (non-woody) plants, regardless				
			of size, and woody plants less than 3.28 ft tall.				
			Woody vines – All woody vines greater than 3.28 ft in				
	- Total Co		height.				
	= Total CC	)vei					
4	NI	EACH					
	-	<del>-</del>	Hydrophytic				
			Hydrophytic Vegetation Present?  Yes No✓				
	% Cover 35 20 15 15 15 5 20 20 20 5 2 2 7 1 1	Species 7	## Cover   Species?   Status				

SOIL Sampling Point: wase022\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of i	ndicators.)
Depth	Matrix	0/		x Features		1.2.2	Tanduna	Damada
(inches)	Color (moist) 10YR 2/1	100	Color (moist)	%	Type'	Loc <sup>2</sup>	SL	Remarks
							SL	
5-12	5YR 3/3	100					SL	
		· —— ·						
		· ·		·				
		. ——						
		. ———						
	_	· ——		-				-
Type: C=C Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	Location: Pl	L=Pore Lining, M=Matrix.  Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	w Surface	(S8) ( <b>LRF</b>	RR,		(A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)	)			Coast Prai	rie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					xy Peat or Peat (S3) ( <b>LRR K, L, R</b> ) ace (S7) ( <b>LRR K, L</b> )
	d Layers (A5)	•	Loamy Gleyed			, =/		Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)		_	anese Masses (F12) ( <b>LRR K, L, R</b> ) Floodplain Soils (F19) ( <b>MLRA 149B</b> )
	Gleyed Matrix (S4)		Redox Depress		• ,			dic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)							nt Material (F21)
	d Matrix (S6) urface (S7) ( <b>LRR R, N</b>	ILRA 149B	)					ow Dark Surface (TF12) olain in Remarks)
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: R							Hydric Soil Pre	esent? Yes No/_
Depth (in Remarks:	ches): <u>12</u>						Hydric 30ii Fre	sent: les No_v
	ators of hydric	soils w	ere observed	. Soil p	rofile r	ot sam	pled below	12 inches due to
	ice of woody r						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	•							



wase022\_u\_N



wase022\_u\_S

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-09-25</u>
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDF	Section, Township	o, Range: 045N-003W-0	08
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Kellogg-Allendale-Ashw			
		•	
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" إ	oresent? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site m	nap showing sampling poi	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	pled Area	
	No within a W	etland? Yes <u>√</u>	No
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in Roadside ditch.	a separate report.)		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check	k all that apply)	Surface Soil	Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled So		
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No _ ✓	Depth (inches):		
Water Table Present? Yes No _✓	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring v	vell, aerial photos, previous inspec	tions), if available:	
Demontos			
Remarks:   Seasonally saturated recharge wetla	and.		

**VEGETATION** – Use scientific names of plants.

5 5	Dominant Species?		Dominance Test worksheet:
5	<u>Y</u>		
5		FAC	Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
	Y		
			Total Number of Dominant Species Across All Strata:4 (B)
			Percent of Dominant Species
			That Are OBL, FACW, or FAC: 75.00 (A/B)
			Prevalence Index worksheet:
	= 10tai 00t	701	FACW species
10	V	EVC/V	FAC species 5 x3 = 15
			FACU species15 x 4 =60
			UPL species <u>0</u> x 5 = <u>0</u>
			Column Totals: <u>80</u> (A) <u>155</u> (B)
			Prevalence Index = B/A =1.94
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
<u> 10 </u>	= Total Cov	/er	∠ 2 - Dominance Test is >50%     ∠ 3 - Prevalence Index is ≤3.0¹
			4 - Morphological Adaptations (Provide supporting
40	<u>Y</u>	OBL	data in Remarks or on a separate sheet)
10	N	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10	N	<b>FACW</b>	1
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
			height.
<u>  60 </u>	= Total Cov	/er	
			Hydrophytic
			Vegetation   Present?   Yes No
		/er	
	10 10 10 10 60	10 = Total Cov  10 Y  10 = Total Cov  40 Y  10 N  10 N  60 = Total Cov	10 N FACU 10 N FACW

SOIL Sampling Point: wase021e\_w

Profile Desc	ription: (Describe to	the depth	needed to docum	ent the ir	ndicator	or confirm	the absence of i	ndicators.)
Depth	Matrix			Features				
(inches)	Color (moist)		Color (moist)		Type'	Loc <sup>2</sup>	Texture	Remarks
<sup>1</sup> Type: C=Co	ncentration, D=Deple	tion, RM=Re	educed Matrix, MS	=Masked	Sand Gra	ins.		_=Pore Lining, M=Matrix.  Problematic Hydric Soils³:
Histosol Histic Ep Black His Hydrogel Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) Below Dark Surface of the Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, ML	.RA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surfact Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surf Depleted Dark S Redox Depression	ce (S9) (Lineral (F1) Matrix (F2) (F3) face (F6) furface (F3) cons (F8)	RR R, ML ) (LRR K,	RA 149B) L)	2 cm Muck Coast Prai 5 cm Muck Dark Surfa Polyvalue I Thin Dark S Iron-Manga Piedmont I Mesic Spoo Red Paren Very Shalld	(A10) (LRR K, L, MLRA 149B) rie Redox (A16) (LRR K, L, R) ry Peat or Peat (S3) (LRR K, L, R) rice (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) rice (S9) (MLRA 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B) rice (TA6) (MLRA 144A, 145, 149B)
	hydrophytic vegetation ayer (if observed):	n and wetla	nd hydrology must	be prese	nt, unless	disturbed	or problematic.	
Type: Depth (inc	hes):		<u> </u>				Hydric Soil Pre	sent? Yes No
	were not samp sed on the pre							soils are assumed to be ion.



wase021e\_w\_N



wase021e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK		
File #: wase021	Date of visit(s): 09/25/2019		
Location: PLSS: 045N-003W-08	Ecological Landsca Superior Coastal Plain	ape:	
Lat: 46.388286 Long: -90.777799  County: Ashland Town/City/Village: Ashland town	Watershed: LS12, Marengo River		
SITE DESCRIPTION			
Soils: Mapped Type(s): 713B Kellogg-Allendale-Ashwabay complex	WWI Class: N/A Wetland Type(s):		
Field Verified:	PEM - fresh wet meadow		
Series not verified. Soils were not sampled due to the possible presence of underground utilities in	0.09	Wetland Area Impacted 0.09	
the roadside location.	Vegetation:	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.	Plant Community Description(s): The herbaceous layer is dominated by Calamagrostis canadensis and Poa pratensis.		

SITE MAP		

### SECTION 1: Functional Value Assessment

1	1 N N Used for recreation (hunting, birding, hiking, etc.), List: 2 N N Used for educational or scientific purposes 3 Y Y V Visually or physically accessible to public 4 N N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wildliffer Habitat 1 Y Y Welfand and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 mount present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 mount present (>10% cover) 6 N N 10ccurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wettand/upland complex,etc.) 7 N Y plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present >45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Weltand is connected or contiguous with perennial stream or lake 1 N N Vegetation is inundated in spring 1 N N N Natural Heirtage therentory (NHI) isled equatic species within aquatic system 1 N N Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heirtage therentory (NHI) isled equatic species within in quatic system 4 N N Vegetation is inundated in spring 5 Shoreline Protection 1 N N Baism welland or consorticed outlet, has through-flow or is adjacent to a stream 2 N N N Water flow through welland is NOT channelized 3 N N N Dernial for ensoin due to wind fetch, waves, heavy boat tra			ECTION 1:	Functional Value Assessment
2	2 N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Widlife Habitat 1 Y Wetland and contiguous habitat >10 acres 2 N N 3 or more strate present (< 10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N P art of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for lor amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 12 N N P Rovides habitat scarce in the area (urban, agricultural, etc.) 13 FA P Standing water provides habitat for amphibians and aquatic invertebrates 14 N N V Standing water provides habitat for amphibians and aquatic invertebrates 15 N N V Standing water provides habitat for amphibians and aquatic invertebrates 16 N N N N Natural Heritage Inventorry (NHI) isted aquatic species within aquatic system 17 N V Standing water provides habitat for amphibians and aquatic invertebrates 18 N N N Natural Heritage Inventorry (NHI) isted aquatic species within aquatic system 19 N V Standing water provides habitat for amphibians and aquatic invertebrates 10 N N V Standing water provides habitat for amphibians and aquatic invertebrates 11 N N N Septimes of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 10 N N Vegetation is inundated in spring 11 N N Vegetation water inventory in the p	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	3	1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:
3	3	2	N	N	Used for educational or scientific purposes
A   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	A   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	Υ	Υ	
5 N N N   List:	S N N	4		N	
S	S		- ' '		
Fig.   Fish and Aquatic Life Habitat	6	5	N	N	
The continuation of the	In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	N	NI	
Wildlife Habitat	Wildlife Habitat		IN	IN	
1	1 Y Y Wetland and contiguous habitat >10 acres 2 N N N 3 or more strata present (>10% cover) 3 N N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the Wil All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present > 45 days 10 N Y Standing water provides habitat for amphiblans and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable water levels or high flows – if no, not applicable 3 NA N Densely rooted emergen or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N N Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N N Water flow through wetland is NOT channelized 7 N N Water flow through wetland is NOT channelized 8 N N Dense, persistent vegetation 6 N N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Septians wetland associated with a lake or stream 8				
2	2		V	V	
3	3				
4 N N N Occurs in a Joint Venture priority township 6 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable NA NA Densely roted emergent or woody vegetation is Storm and Floodwater Storage 1 Y Y Basin wettland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 4 N N Dense, persistent vegetation 5 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to not > 10% of the runoft from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Pointor non-point source inflow 1 N Y Persides substantial storage of storm and floodwater based on previous section 2 N N Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N Potential to hold > 10% of the runoft from contributing area fro	4				
5	5 N N Cocurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the Wi Ali-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring 5P Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 4 NA Densely rooted emergent or woody vegetation 5T Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 4 N N Water flow through wetland is NOT channelized 5 N N Impervious surfaces cover >10% of land surface within the watershed 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Water flow through wetland is NOT channelized 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 Y Y Basin wetland or constricted outlet 9 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural land is major hy	-			
Files	Fig.   N				
7	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			
N	8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N N Vegetation is inundated in spring Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA NA Densely rooted emergent or woody vegetation 3 NA NA Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 9 Y Y Basin wetland or constricted outlet 1 N Y Provides substantial storage of storm and floodwater based on previous section 1 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 8 N N Discharge to surface water from agricultural land is major hydrology source 9 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, s	6	N	N	Interspersion of nabitat structure (nemi-marsn,snrub/emergent, wetland/upland complex,etc.)
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	5   N   N   Wetland is within a wellhead protection area				
5 N N Wetland is within a wellhead protection area		5	N	N	Wetland is within a wellhead protection area

HU-3: located alongside a public roadway WH-7: mowed vegetation limits habitat availability WQ-5: dense vegetation is present until mowed WQ-3: linear artificial ditch Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments avian Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum			PEM	Uncommon
Betula papyrifera			PEM	Uncommon
Cornus alba			PEM	Common
Calamagrostis canadensis			PEM	Abundant
Poa pratensis			PEM	Common
Onoclea sensibilis			PEM	Common
1				

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised mostly of native plant species expected within a disturbed emergent wetland plant community, with no observed invasive species other than Poa pratensis.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
Х	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		Н	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
Χ	Х		M	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
	Х	Х	N 4	U	Removal of tree or shrub strata – logging,
	^	^	М	U	unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
	Х		M	С	Removal of large woody debris
Χ	Х		M	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The artificial wetland located within a ditch is largely impacted by the removal of herbaceous vegetation due to mowing. The surrounding area is impacted by previous logging as evidenced by young growth throughout. The wetland and the surrounding area also run alongside a public roadway, and a hayed field is present on the other side of the road.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Small amount of invasive cover, mowed vegetation and low diversity
Human Use Values	Easy to view from public roadway, small artificial wetland with no clear uses
Wildlife Habitat	Missing strata, mowed vegetation
Fish and Aquatic Life Habitat	No standing water
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, channelized ditch that holds stormwater runoff from the adjacent road
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-09-25
-			
Investigator(s): ARK/KDF	Section, Township	o, Range: <u>045N-003W-</u> 0	08
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.388291	Long: -90.777663	Datum: WGS84
Soil Map Unit Name: Kellogg-Allendale-Ash			
Are climatic / hydrologic conditions on the site typica		•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam		
	NO <u> </u>	etland? Yes	No <u></u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or Weedy area undergoing succession	in a separate report.)		
Weedy area undergoing succession	on to woodiand/lorest.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim L	ines (B16)
	Marl Deposits (B15)	Dry-Season	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	<ul> <li>Oxidized Rhizospheres on Living</li> </ul>		isible on Aerial Imagery (C9)
1 — · · · · · — —	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled So		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	_ Other (Explain in Remarks)	· -	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	i Test (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No √
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspec	tions), if available:	
Remarks:			
No indicators of wetland hydrology	were observed.		

**VEGETATION** – Use scientific names of plants.

15 5	Dominant Species?  Y  Y	Status FACW FACU	Number of Dominant Specie That Are OBL, FACW, or FA Total Number of Dominant Species Across All Strata:	s .C: s	36	. ,
5	Y	FACU	That Are OBL, FACW, or FA  Total Number of Dominant Species Across All Strata:  Percent of Dominant Species	.C:  s		. ,
			Total Number of Dominant Species Across All Strata: Percent of Dominant Species	s		` '
			Species Across All Strata:  Percent of Dominant Species	s	6	(B)
			That Are ODL EACING OF EA			
			I mai Are OBL, FACVV, or FA	That Are OBL, FACW, or FAC: 50.00 (A		
			Prevalence Index workshe	et:		
			Total % Cover of:		iply by:	
20 :	= Total Cov	er	OBL species 0	x 1 =	0	_
			FACW species17	x 2 =	34	_
40	<u>Y</u>	FAC	-			_
						_
			Column Totals: 109	_ (A)	349	_ (B)
			Prevalence Index = B/	'A =	3.20	
			Hydrophytic Vegetation Inc	dicators:		
					etation	
			2 - Dominance Test is >	50%		
<u> </u>	= Total Cov	ei	3 - Prevalence Index is ≤3.0 <sup>1</sup>			
20	V	EACH	4 - Morphological Adapt	ations <sup>1</sup> (Pr	ovide sup	porting
					,	
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must			
			be present, unless disturbed	or problen	natic.	
			Definitions of Vegetation S	Strata:		
						ametei
			at breast height (DBH), rega	rdless of h	eight.	
						ВН
			and greater than or equal to	3.28 ft (1 r	n) tall.	
						rdless
			of size, and woody plants les	ss than 3.2	8 ft tall.	
				nes greate	r than 3.2	28 ft in
34	= Total Cov	er	neight.			
			Hydrophytic			
			Vegetation			
			Present? Yes	No	✓	
	40 15 2 57 20 10 2 2	40 Y 15 Y 2 N  57 = Total Cov 20 Y 10 Y 2 N 2 N 34 = Total Cov	10 Y FACU 2 N UPL 2 N NI	20 = Total Cover  40 Y FAC 15 Y FAC 2 N FACW 2 N FACW  Prevalence Index = B/  Hydrophytic Vegetation Index 1 - Rapid Test for Hydro 2 - Dominance Test is > 3 - Prevalence Index is second data in Remarks or compared to the present, unless disturbed be present, unless disturbed and greater than or equal to the present of size, and woody plants less woody vines - All woody vines and woody vines - All woody vines and woody vines - All woody vinein the present of the present of size, and woody vines and woody vines - All woody vines	20	20

SOIL Sampling Point: wase021\_u

	cription: (Describe	to the dep				or confirm	the absence of	indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-15	10YR 3/2	100	Color (molot)		Турс		L	Komano
15-18	7.5YR 3/3	100					SL	
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
Hydric Soil					(OO) (I DI	_		Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)		Polyvalue Below MLRA 149B)	Surface	(S8) (LRI	κκ,		k (A10) ( <b>LRR K, L, MLRA 149B</b> ) irie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	istic (A3)		Thin Dark Surfa				5 cm Muc	ky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M Loamy Gleyed N			, <b>L</b> )		ace (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix		,			Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Sur					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S Redox Depressi		7)			Floodplain Soils (F19) ( <b>MLRA 149B</b> ) odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)			01.0 (1.0)				nt Material (F21)
	l Matrix (S6) rface (S7) (LRR R, N	ILRA 149E	3)					low Dark Surface (TF12) plain in Remarks)
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: <u>ro</u>	ches): <u>18</u>						Hydric Soil Pro	esent? Yes No✓_
Remarks:	cries). <u>TO</u>						11,4110 001111	
	ators of hydric	soils w	ere observed.	Rock	encou	ntered	at 18 inches	s below surface.



wase021\_u\_N



wase021\_u\_S

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb037e_w
Investigator(s): SAM/KDF	Section, Township	, Range: <u>045N-003W-0</u>	8
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Kellogg-Allendale-Ashwaba			
Are climatic / hydrologic conditions on the site typical for this	is time of year? Yes N	lo (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes ✓ No
Are Vegetation, Soil, or Hydrology	naturally problematic? (	If needed, explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sampling poir	nt locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ✓ N			
Hydric Soil Present? Yes ✓			No
Wetland Hydrology Present? Yes ✓ N		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a se Small depressional wetland basin, not		l origin	
Official depressional wedard basin, her	Helossally of Hatara	i Origini.	
HADBOLOGA			
HYDROLOGY  Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all	that anniv	•	
	ter-Stained Leaves (B9)	Surface Soil ( Drainage Pati	
	uatic Fauna (B13)	Moss Trim Lir	
	rl Deposits (B15)		Water Table (C2)
	drogen Sulfide Odor (C1)	Crayfish Burn	· · ·
	dized Rhizospheres on Living F	•	sible on Aerial Imagery (C9)
	sence of Reduced Iron (C4)		ressed Plants (D1)
	cent Iron Reduction in Tilled So		· ·
	n Muck Surface (C7)	Shallow Aquit	
	ner (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	
Field Observations:		<del></del>	
Surface Water Present? Yes No _✓ De	epth (inches):		
	epth (inches):		
Saturation Present? Yes No De (includes capillary fringe)	epth (inches):	Wetland Hydrology Present	t? Yes/ No
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspect	ions), if available:	
	,	,	
Remarks: Feature likely with seasonally saturated	d enile		
l editire likely with sousonally saturated	J Sulis.		
1			

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2				That Are OBL, FACW, or FAC: 2.0 (A)
3				Total Number of Dominant Species Across All Strata: 2.0 (B)
4				(,,
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Co		OBL species60.0 x 1 =60.0
Sapling/Shrub Stratum (Plot size: 15' )		_ rotar 00		FACW species 30.0 x 2 = 60.0
1. Alnus incana	20.0	Υ	FACW	FAC species <u>0.0</u> x 3 = <u>0.0</u>
2				FACU species0.0 x 4 =0.0
3				UPL species <u>0.0</u> x 5 = <u>0.0</u>
4				Column Totals:90.0 (A)120.0 (B)
5				Prevalence Index = B/A =1.3
6				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Glyceria striata	40.0	Y	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Carex crinita	10.0	N	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Onoclea sensibilis</u>	10.0	N	<u>FACW</u>	1 Indicators of hydric soil and watland hydrology must
4. Scirpus cyperinus	5.0	N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Juncus effusus</u>	5.0	N	OBL	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	70.0	= Total Co	ver	neight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
Demandra, (Include whate growth are horse or an account.		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Basin dominated by graminoids with ar		inge. P	rimarily	Glyceria striata.
, 0		J	,	

Sampling Point: wasb037e\_w

SOIL Sampling Point: wasb037e\_w

Profile Desc	ription: (Describe to	o the dep	th needed t	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features				
(inches)	Color (moist)	<u>%</u>	Color (m		%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-18	7.5YR 2.5/1	_90_	<u>7.5YR</u>	5/8	_10_	C	M	_SCL_	Prominent redox
			-				-		
	oncentration, D=Deple	etion, RM	=Reduced M	1atrix, MS	S=Masked	Sand Gra	ains.		: PL=Pore Lining, M=Matrix.
Hydric Soil									for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) Dipedon (A2)			lue Belov R <b>A 149B</b> )	v Surface	(S8) ( <b>LR</b> F	RR,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi				,		RR R. MI	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)				lineral (F1				Surface (S7) ( <b>LRR K, L</b> )
	d Layers (A5)			-	Matrix (F2)				alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	(A11)		ed Matrix					eark Surface (S9) (LRR K, L)
	ark Surface (A12)				face (F6)				anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)				Surface (F	7)			ont Floodplain Soils (F19) (MLRA 149B)
	Bleyed Matrix (S4) Redox (S5)		Redox	Depressi	ioris (Fo)				Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) arent Material (F21)
	Matrix (S6)								Shallow Dark Surface (TF12)
	rface (S7) (LRR R, M	LRA 149	3)						(Explain in Remarks)
2									
	f hydrophytic vegetation for the comment of the com	on and w	etland hydro	logy mus	t be prese	ent, unless	s disturbed	or problemation	C.
Type:	Layer (II observed).								
	- I \							Hydric Soil	Present? Yes ✓ No
	ches):							Tiyane oon	Tresent: res_v No
Remarks:	oserved throug	hout							
INGUOX OF	Jaerved tilloug	ji lout.							



wasb037e\_w\_NE



wasb037e\_w\_NW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-02
Applicant/Owner: Enbridge	State: WI Sampling Point: wasb037s_w
Investigator(s): SAM/KDF	Section, Township, Range: 045N-003W-08
Landform (hillslope, terrace, etc.): Depression Loc	al relief (concave, convex, none): Concave Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.388638	B Long: <u>-90.777329</u> Datum: <u>WGS84</u>
Soil Map Unit Name: Kellogg-Allendale-Ashwabay compl	ex, 2 to 6 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	disturbed? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report Alder thicket associated with an open graminoi	d-dominated basin. On a slight slope, surrounding the
emergent component. Sample recorded at the	
purposes.	ougo or ano monama boundary for classification.
LIVEROLOGY	
HYDROLOGY Westland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators:  Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
Surface Water (A1) Water-Stained I	
High Water Table (A2) Aquatic Fauna	
Saturation (A3) Marl Deposits (I	
Water Marks (B1) Hydrogen Sulfic	
	spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Re	
	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfa	ace (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain i	n Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _ ✓ Depth (inches)	
Water Table Present? Yes No✓ Depth (inches)	
Saturation Present? Yes No✓ Depth (inches) (includes capillary fringe)	: Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
Area with seasonal saturation but not likely too	long.

**VEGETATION** – Use scientific names of plants.

	S.			Sampling Point: wasb037s_w
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2.				Total Number of Dominant Species Across All Strata: 2.0 (B)
3 4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7		= Total Co		
Sapling/Shrub Stratum (Plot size: 15')		= 10tai 00	7701	FACW species 130.0 x 2 = 260.0
1. <u>Alnus incana</u>	75 O	Y	FACW	FAC species 0.0 x 3 = 0.0
2. <u>Pyrola elliptica</u>			FACU	FACU species10.0 x 4 =40.0
3				UPL species0.0 x 5 =0.0
				Column Totals: <u>140.0</u> (A) <u>300.0</u> (B)
4 5				Prevalence Index = B/A =
5 6				Hydrophytic Vegetation Indicators:
				✓ 1 - Rapid Test for Hydrophytic Vegetation
7		= Total Co		∠ 2 - Dominance Test is >50%
Uset Obstacles (Distacles 5)	65.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )  1. Onoclea sensibilis	_50.0	<u>Y</u>	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Equisetum pratense</u>		N	FACW	Problematic Hydrophytic Vegetation¹ (Explain)
3				4
4.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6		_		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			<u> </u>	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			<u> </u>	
12			<u> </u>	<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	55.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2		-		
3		-		Hydrophytic
				Vegetation Present? Yes No
4		= Total Co		

SOIL Sampling Point: wasb037s\_w

Depth	cription: (E	Describe Matrix	to the dep	oth needed		<b>nent the i</b> x Features		or confirm	the absence	e of indicators.)
(inches)	Color (		%	Color (		<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	<u>7.5YR</u>	3/2	_90_	5YR	4/6	_10_	<u>C</u>	_M_	SIL	Prominent redox
14-18	5YR	3/4	100						SIL	
	-			-						
-										
	-			-						
			·							
<sup>1</sup> Type: C=C Hydric Soil			letion, RM	=Reduced	Matrix, MS	3=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils <sup>3</sup> :
Histosol				Polyv	alue Belov	w Surface	(S8) ( <b>LR</b> !	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic E	pipedon (A2	2)		ML	RA 149B)	)			Coast	Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide ( <i>A</i>	14)				ace (S9) ( <b>L</b> ⁄lineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)
	d Layers (A					Matrix (F2)		·, <b>-</b> /		alue Below Surface (S8) (LRR K, L)
	d Below Da		e (A11)		ted Matrix					Dark Surface (S9) (LRR K, L)
	ark Surface ⁄lucky Mine			Redo:		rface (F6) Surface (F	7)			Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matr				x Depress		')			Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)									Parent Material (F21)
	d Matrix (S6 Irface (S7) (		/ILRA 149	B)						Shallow Dark Surface (TF12) (Explain in Remarks)
<sup>3</sup> Indicators o		-		etland hydr	ology mus	t be prese	nt, unles	s disturbed	or problemati	ic.
Type:	Layer (II OL	serveu).								
	ches):								Hydric Soi	I Present? Yes ✓ No
Remarks:	C1103)			<del></del>						
Redox p	resent ii	n first l	horizon							
·										



wasb037s\_w\_E



wasb037s\_w\_NW

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	KDF/SAM			
File #:	Date of visit(s):			
wasb037	10/02/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>045N-003W-08</u>	Cupariar Capatal Dlain			
	Superior Coastal Plain			
Lat: <u>46.388638</u> Long: <u>-90.777005</u>	Watershed:			
——————————————————————————————————————	LS12, Marengo River			
County: Ashland Town/City/Village: Ashland town				
Tomi, only, vinago.				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
713B Kellogg-Allendale-Ashwabay complex	Wetland Type(s):			
The standard from about complex	PEM/PSS complex - fresh wet meadow/alder thicket			
Field Verified:				
Series not verified. Within the emergent component, soils	Wetland Size:	Wetland Area Impacted		
were sandy clay loam throughout the profile. Within the shrub	0.21	0.21		
component, soils were silt loam throughout the profile.	*	0.21		
	Vegetation:			
Hydrology	Plant Community D	. ,		
Hydrology:	Within the shrub component, the dominate			
The hydrologic regime is seasonally saturated	vegetation is Alnus incana and Onoclea sensibilis.			
with recharge hydrology.	Within the emergent component, the vegetation is			
3.	dominated by Glyc	eria striata and Carex crinita.		

SITE MAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 13	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3		N N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>&gt; 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
. 1	N.I.	\/	
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	I IN	Would be within a wombode protocitor area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located on private land but visible from the road HU-4: backyard wetland, likely manipulated WH-2: primarily shrub and herbaceous vegetation coverage, though planted Jack pine is also present WH-6: interspersion of emergent and shrub components of wetland ST-5: may receive runoff from adjacent road WQ-5: dense herbaceous vegetation Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

# Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Alnus incana			PSS, PEM	Abundant
Pyrola elliptica			PSS	Common
Onclea sensibilis			PSS, PEM	Common
Equisetum pratense			PSS	Uncommon
Glyceria striata			PEM	Common
Carex crinita			PEM	Common
Scirpus cyperinus			PEM	Uncommon
Juncus effusus			PEM	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of the plant communities. Planted Jack pine is present within the area.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		М	С	Point source or stormwater discharge
	Х		М	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		N 4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Х		М	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

# **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland and surrounding area is mostly impacted by residential land use resulting in some manipulation of the
feature. A roadway is located nearby, and the shrub component shows evidence of some earthworm activity
removing herbaceous vegetation.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	$\checkmark$				
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>/</b>			
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, likely manipulated
Human Use Values	Private land, backyard wetland, visible from public road
Wildlife Habitat	Diverse habitats, PEM/PSS wetland complex
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, dense vegetation, receives runoff from nearby road
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-02
•			
Investigator(s): SAM/KDF	Section, Township	o, Range: <u>045N-003W-(</u>	08
Landform (hillslope, terrace, etc.): Rise			
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46.388577	Long: -90.777400	Datum: WGS84
Soil Map Unit Name: Kellogg-Allendale-As			
Are climatic / hydrologic conditions on the site typic	• • • •	·	
Are Vegetation, Soil, or Hydrology _	·		
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map snowing sampling poi	nt locations, transects	, important features, etc.
	No ✓ Is the Sam	-	
	No/ within a W	etland? Yes	No <u></u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or Fallow field near an abandoned here.)	n a separate report.)		
I allow field fleaf all aballuofled fi	ouse.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl	neck all that apply)	· · · · · · · · · · · · · · · · · · ·	· · · · · · · ·
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	Oxidized Rhizospheres on Living		isible on Aerial Imagery (C9)
1 — · · · · ·	Presence of Reduced Iron (C4)		tressed Plants (D1)
	<ul><li>Recent Iron Reduction in Tilled So</li><li>Thin Muck Surface (C7)</li></ul>	Dils (C6) Geomorphic Shallow Aqu	Position (D2)
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Guier (Explain in Nemano)	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No	✓ Depth (inches):		
	✓ Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring)	ag well porial photos, provious inches	tions) if available:	
Describe Necorded Data (Stream gauge, morntom	ig well, deliai priotos, previous irispec	tions), ii avaliable.	
Remarks:			
No primary or secondary indicator	rs of wetland hydrology w	ere observed.	

# **VEGETATION** – Use scientific names of plants.

		Indicator Status	Dominance Test worksheet:		
			Number of Dominant Species That Are OBL, FACW, or FAC: 0.0 (A)		
			Total Number of Dominant		
			Species Across All Strata: 3.0 (B)		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC: 0.0 (A/B)		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
0.0	= Total Co	ver	OBL species x 1 = 5.0		
			FACW species0.0 x 2 =0.0		
10.0	Y	<u>FACU</u>	FAC species x 3 =		
			FACU species 50.0 x 4 = 200.0 UPL species 55.0 x 5 = 275.0		
			Column Totals: 110.0 (A) 480.0 (B)		
			Prevalence Index = B/A =4_4		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation		
			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup>		
			3 - Prevalence Index is \$3.0° 4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
50.0	Y	UPL	data in Remarks or on a separate sheet)		
20.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
10.0	N	<u>FACU</u>	1		
	N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
	N	OBL	Definitions of Vegetation Strata:		
	N	UPL			
			<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
			Sapling/shrub – Woody plants less than 3 in. DBH		
			and greater than or equal to 3.28 ft (1 m) tall.		
			Herb – All herbaceous (non-woody) plants, regardless		
			of size, and woody plants less than 3.28 ft tall.		
			Woody vines – All woody vines greater than 3.28 ft in		
100.0	= Total Co	ver	height.		
			Hydrophytic		
		-	Vegetation		
			Present? Yes No ✓		
			10.0 = Total Cover  50.0 Y UPL 20.0 Y FACU 10.0 N FACU 10.0 N FACU 5.0 N OBL 5.0 N UPL		

SOIL Sampling Point: wasb037\_u

Profile Desc	cription: (Describe t	o the de	oth needed t	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Features	1			
(inches)	Color (moist)	<u>%</u>	Color (m		<u>%</u>	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-18	7.5YR 3/4	_98_	<u>7.5YR</u>	5/8	2	<u>C</u>	_M_	SL	Prominent redox
					· ·				
					·				
									<del></del>
¹Type: C=C	oncentration, D=Depl	etion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil									for Problematic Hydric Soils <sup>3</sup> :
Histosol			-		w Surface	(S8) ( <b>LRI</b>	RR,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			RA 149B) ark Surfa		DDD M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R)  Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)				/lineral (F1				Surface (S7) (LRR K, L)
Stratifie	d Layers (A5)		Loamy	Gleyed I	Matrix (F2		. ,	Polyva	alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)		ed Matrix					Park Surface (S9) (LRR K, L)
	ark Surface (A12)  Mucky Mineral (S1)				rface (F6) Surface (F				langanese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)				ions (F8)	")			Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)			.,	- ( - /				arent Material (F21)
	l Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, M	ILRA 149	B)					Other	(Explain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetati	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problematic	C.
	Layer (if observed):		,		<u> </u>			<u> </u>	
Type:									
Depth (in	ches):							Hydric Soil	Present? Yes No✓
Remarks:									
No hydri	c soil indicator	s obse	rved.						



wasb037\_u\_S



wasb037\_u\_SW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	_ Sampling Date: <u>2019-10-02</u>
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb035f_w
Investigator(s): SAM/KDF	Section, Township	, Range: <u>045N-003W-</u>	.08
Landform (hillslope, terrace, etc.): Side slope			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.38			
Soil Map Unit Name: <u>Udorthents</u> , ravines and escarp			
Are climatic / hydrologic conditions on the site typical for this tim	•	·	
Are Vegetation, Soil, or Hydrology signif	•		
Are Vegetation, Soil, or Hydrology natur  SUMMARY OF FINDINGS - Attach site map sho		(If needed, explain any answ	
Somman of Findings - Attach site map site		<u> </u>	s, important reatures, etc.
Hydrophytic Vegetation Present? Yes✓ No		pled Area etland?              Yes <u>    √</u>	No
Hydric Soil Present? Yes _ ✓ No _	<del></del>		
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separat		nal Wetland Site ID:	
Forested seep of black ash in a somewhar	t depressional ba	sin that abruptly en	ds prior to the
adjacent waterbody to the south east. Deli	•		•
indicator of where discharge is active.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	annly)	Surface So	
1	Stained Leaves (B9)		
	Fauna (B13)	Moss Trim	
✓ Saturation (A3) Marl Dep			Water Table (C2)
	en Sulfide Odor (C1)	Crayfish Bu	
	d Rhizospheres on Living I		Visible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		Stressed Plants (D1)
	Iron Reduction in Tilled So	oils (C6) <u>√</u> Geomorphio Shallow Aq	
	ick Surface (C7) Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	.Apiair iii Romano,	Microtopog	
Field Observations:			
Surface Water Present? Yes No ✓ _ Depth (	(inches):		
Water Table Present? Yes _ ✓ No Depth (			
Saturation Present? Yes _ ✓ No Depth (	(inches): <u>7</u>	Wetland Hydrology Prese	ent? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspect	tions), if available:	
Dodolino recorded Data (effecting gauge,	ii priotoo, proviosase	iono,, ii availabio.	
Remarks: Receives surface water inputs via a narrov	w drainage featur	e to the northwest	Also likely to have
discharge hydrology based on visible water		C to the northwest.	Also likely to have
discharge hydrology based on visible water	si table.		

**VEGETATION** – Use scientific names of plants.

				Sampling Point: wasb035f_w
Tree Stratum (Plot size: 30' )	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	50.0	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2. <u>Tilia americana</u>				Total Number of Dominant
3				Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 60.00 (A/B)
6	<u> </u>	-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	75.0	= Total Co	ver	OBL species75 x 1 =75
Sapling/Shrub Stratum (Plot size:)				FACW species <u>85</u> x 2 = <u>170</u>
1. Acer saccharum				FAC species5 x 3 =15 FACU species50 x 4 =200
2. <u>Ulmus americana</u>	25.0	Y	<u>FACW</u>	UPL species x 5 = 0
3				Column Totals: <u>215</u> (A) <u>460</u> (B)
4	·			Provolence Index D/A 2.14
5				Prevalence Index = B/A = 2.14
6				Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
51	50.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5')	75.0	V	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Carex scabrata</u>			OBL FACW	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2. Impatiens capensis			FAC	Troblematic Hydrophytic Vegetation (Explain)
3. <u>Equisetum hyemale</u>				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
(**************************************				
1				
1				Hydrophytic
1 2				Hydrophytic Vegetation Present? Yes ✓ No

SOIL Sampling Point: wasb035f\_w

Profile Desc	ription: (D	escribe t	o the dep	th needed	to docum	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth (in the ca)		Matrix	0/	Calan /		K Features		Loc <sup>2</sup>	Tandona	Remarks
(inches)	Color (r		<u>%</u>	Color (r	noist)	%	Type'	LOC	Texture	Remarks
0-4	7.5YR	3/2	100						_SIL_	
4-14	7.5YR	3/2		<u>5YR</u>	5/8	_15_	_C_	_M_	SIL	Prominent redox
<u>14-18</u>	<u>7.5YR</u>	3/2	60	5YR	5/8	40	C	_M_	S	Prominent redox
	-									
	-									
<sup>1</sup> Type: C=C	oncentration	n, D=Deple	etion, RM:	=Reduced I	Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil									Indicators	for Problematic Hydric Soils <sup>3</sup> :
Histosol		`			alue Below	v Surface	(S8) ( <b>LRI</b>	RR,		Muck (A10) (LRR K, L, MLRA 149B)
l — ·	oipedon (A2 istic (A3)	)			<b>RA 149B</b> ) Dark Surfa	ce (S9) ( <b>L</b>	RR R. MI	LRA 149B)		Prairie Redox (A16) ( <b>LRR K, L, R</b> )  Mucky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A	4)			Mucky N					Surface (S7) (LRR K, L)
	d Layers (A	,	(0.4.4)		Gleyed N		)			alue Below Surface (S8) (LRR K, L)
	d Below Dar ark Surface		(A11)		ted Matrix Dark Sur					Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
	lucky Miner				ted Dark S		7)			nont Floodplain Soils (F19) (MLRA 149B)
-	Sleyed Matri	x (S4)		Redox	Depressi	ons (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) I Matrix (S6)									Parent Material (F21) Shallow Dark Surface (TF12)
	rface (S7) (I		LRA 149	3)						(Explain in Remarks)
Indicators o			on and we	etland hydro	ology mus	t be prese	ent, unless	disturbed	or problemati	C.
Type:	Layer (II Ob	seiveu).								
	ches):								Hydric Soi	I Present? Yes/ No
Remarks:	C1103)									
	bserved	below	four ir	ches. C	Other s	oil pits	exam	ined as	well. This	s one situated midslope.
Coarse s	oils allo	wing fo	or disc	harge.		-				•



wasb035f\_w\_NE



wasb035f\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	KDF/SAM		
File #:	Date of visit(s):		
wasb035	10/02/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-003W-08</u>	Superior Coastal Plain		
	Superior Coastal Flairi		
Lat: <u>46.388213</u> Long: <u>-90.776073</u>	Watershed:		
	LS12, Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
92F Udorthents, ravines and escarpments, 388B Pelkie, occasionally	Wetland Type(s):		
flooded-Dechamps, frequently flooded, complex	PFO - Hardwood swamp		
Field Verified:	l l o l lalawood	2 Owamp	
Series not verified. Soils were silt loam above	Wetland Size:	Wetland Area Impacted	
sand.	0.12	0.12	
	Vegetation:		
	Plant Community D	escription(s):	
Hydrology:	_	minated by Fraxinus nigra. The	
The hydrologic regime is seasonally saturated			
with recharge and discharge hydrology.		egetation is Acer saccharum	
with recharge and discharge hydrology.		cana. Carex scabrata dominates	
	the herbaceous v	egetation.	

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
8	N I	Υ	Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	Y	Seasonally exposed mudflats present
-	N	N	
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	Υ	Y	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Ν	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Ν	N	Vegetated wetland associated with a lake or stream
5	Ν	N	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland  Wetland remains acturated for an extended time period with neadditional water inputs
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct of	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Avian, herpetofauna, mammals, insects
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates
i		·

Section 1 Comments (Refer to Section 1 numbers)

ST-3: patches of dense vegetation within the wetland FA-2: potential for standing water after rain events ST-5: receives inputs from narrow drainage feature

# **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

# Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Tilia americana			PFO	Common
Acer saccharum			PFO	Common
Ulmus americana			PFO	Common
Carex scabrata			PFO	Abundant
Impatiens capensis			PFO	Common
Equisetum hyemale			PFO	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of the plant community with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		N 4	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Χ		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wet	tland and surrounding a ion.	irea is impacted by earth	nworm activity resulting	g in the removal of der	nse herbaceous

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			<b>SIGNIFICANC</b>	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>√</b>	_		
Human Use Values	<b>√</b>				
Wildlife Habitat		<b>✓</b>			
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection	<b>√</b>				
Flood and Stormwater Storage		<b>√</b>			
Water Quality Protection		<b>✓</b>			
Groundwater Processes			<b>√</b>		

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, low diversity
Human Use Values	Private land, limited accessibility
Wildlife Habitat	Multiple strata represented, located near upland forest and stream
Fish and Aquatic Life Habitat	Potential for standing water after rain events, could support aquatic invertebrates but not fish
Shoreline Protection	Associated with an ephemeral stream
Flood and Stormwater Storage	Closed basin wetland
Water Quality Protection	See above
Groundwater Processes	Forested seep with recharge and discharge hydrology

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	ıland	Sampling Date: <u>2019-10-02</u>	
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb035_u	
Investigator(s): SAM/KDF	Section, Township	, Range: <u>045N-003W-0</u>	08	
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3	388319	Long: -90.775839	Datum: WGS84	
Soil Map Unit Name: Pelkie, occasionally flooded-Dechamps, fre				
Are climatic / hydrologic conditions on the site typical for this ti				
Are Vegetation, Soil, or Hydrology sign				
Are Vegetation, Soil, or Hydrology nat SUMMARY OF FINDINGS - Attach site map sh				
SOMMANT OF FINDINGS - Attach site map si	1	<u> </u>	s, important leatures, etc.	
Hydrophytic Vegetation Present? Yes No _			No. /	
Hydric Soil Present? Yes No _			No <u>√</u>	
Wetland Hydrology Present? Yes No_		nal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a separ A mesic hardwood forest on a slope, don		sugar maple with ba	esswood quaking	
aspen, big-tooth aspen, and occasional b	olack ash.			
HYDROLOGY				
Wetland Hydrology Indicators:			ators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that		Surface Soil		
	Stained Leaves (B9)	Drainage Patterns (B10)		
	c Fauna (B13)	Moss Trim Lines (B16)		
	eposits (B15) gen Sulfide Odor (C1)	Dry-Season Water Table (C2) Crayfish Burrows (C8)		
	gen Sullide Odor (C1) ed Rhizospheres on Living F		isible on Aerial Imagery (C9)	
	nce of Reduced Iron (C4)		stressed Plants (D1)	
	t Iron Reduction in Tilled So		Position (D2)	
	luck Surface (C7)	Shallow Aqu		
	(Explain in Remarks)	Microtopogra	, ,	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral		
Field Observations:				
Surface Water Present? Yes No✓ Depth				
Water Table Present? Yes No✓ Depth				
Saturation Present? Yes No ✓ Depth	(inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>	
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aer	rial photos, previous inspect	ions), if available:		
, 5 5		,.		
D do-				
Remarks: No signs of discharge or that this area co	ollects surface rund	off Soils are clay, in	dicating that	
discharge would be unlikely.	mooto odiraco rant	,,	diodaning that	
albertarge would be armitely.				

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants.				Sampling Point: <u>wasb035_u</u>
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer saccharum</u>	50.0	Y	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:1(A)
2. <u>Populus tremuloides</u>			FAC	
3. <i>Fraxinus nigra</i>			FACW	Total Number of Dominant Species Across All Strata:  4 (B)
4	-			Percent of Dominant Species
5		· -		That Are OBL, FACW, or FAC:25.00 (A/B)
6	-			Prevalence Index worksheet:
7	-			Total % Cover of: Multiply by:
	70	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species10 x 2 =20
1. <u>Tilia americana</u>	10.0	Y	<u>FACU</u>	FAC species 40 x 3 = 120
2. <u>Acer saccharum</u>	5.0	<u>Y</u>	<u>FACU</u>	FACU species
3				UPL species $0$ $x = 0$ Column Totals: $120$ (A) $420$ (B)
4				
5				Prevalence Index = B/A = 3.50
6				Hydrophytic Vegetation Indicators:
7		· -		1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹
1. <u>Equisetum hyemale</u>	25.0	Y	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. <u>Acer saccharum</u>			FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Symphyotrichum lateriflorum</u>			FAC	
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5	-			Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7		· -		at breast height (DBH), regardless of height.
8		· -		Sapling/shrub – Woody plants less than 3 in. DBH
9	-			and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11	_	· <del></del>	-	
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	35.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1	<del>.</del>			
2	-			
3				Hydrophytic
4	_			Vegetation   Present? Yes No ✓
	0.0	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate some limmediate area dominated by sugar marush. Not as much black ash as there is	sheet.) aple. Ot	herwise	the gro	

SOIL Sampling Point: wasb035\_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of ind	licators.)
Depth	Matrix	0/	Redo Color (moist)	x Features	-	Loc <sup>2</sup>	Tandona	Demode
(inches)	7.5YR 3/2	100	Color (moist)	%	Type'	LOC	Texture	Remarks
	5YR 5/8			· <del></del>				
	<u> </u>	100						
		-		· <del></del>				
		-		· <del></del>				
				·				
				· <del></del>				
				· <del></del>				
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=l	Pore Lining, M=Matrix.
Hydric Soil	Indicators:	,					Indicators for Pr	oblematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(S8) ( <b>LRF</b>	RR,		A10) ( <b>LRR K, L, MLRA 149B</b> ) Redox (A16) ( <b>LRR K, L, R</b> )
Black H	istic (A3)	-	Thin Dark Surfa	ice (S9) ( <b>L</b>			5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		e (S7) (LRR K, L) elow Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Su	ırface (S9) (LRR K, L)
	ark Surface (A12)  Mucky Mineral (S1)	-	Redox Dark Su Depleted Dark S		7)		-	ese Masses (F12) ( <b>LRR K, L, R</b> ) podplain Soils (F19) ( <b>MLRA 149B</b> )
	Gleyed Matrix (S4)	-	Redox Depress		1)			c (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)							Material (F21)
	I Matrix (S6) rrface (S7) (LRR R, N	ILRA 149B	)				· ·	r Dark Surface (TF12) in in Remarks)
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil Prese	ent? Yes No <u>√</u>
Remarks:	<u> </u>		<del></del>				<u>                                     </u>	
Unlike th	e wetland feat	ture, soi	ls here are cl	ay.				



wasb035\_u\_N



wasb035\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-02	
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb036e_w	
Investigator(s): SAM/KDF				
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests Lat:	46.388735	Long: -90.776769	Datum: WGS84	
Soil Map Unit Name: <u>Udorthents, ravines and</u>				
Are climatic / hydrologic conditions on the site typical for		•		
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site m	nap showing sampling poi	nt locations, transec	ts, important features, etc.	
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	pled Area		
	No within a W	/etland? Yes	/ No	
		onal Wetland Site ID:	_	
Remarks: (Explain alternative procedures here or in a	a separate report.)	stad with a small or	homoral waterhody	
Sidehill seep feature dominated by g	grammolus and associa	ileu willi a Siliali ef	onemerai waterbody.	
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Ind	icators (minimum of two required)	
Primary Indicators (minimum of one is required; check	k all that apply)	Surface So	oil Cracks (B6)	
	Water-Stained Leaves (B9)	Drainage Patterns (B10)		
	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
	Marl Deposits (B15)	Dry-Season Water Table (C2)		
	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)		
	Oxidized Rhizospheres on Living			
	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)		
	Recent Iron Reduction in Tilled So Thin Muck Surface (C7)			
	Other (Explain in Remarks)	<pre> Shallow Aquitard (D3) Microtopographic Relief (D4)</pre>		
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	Microtopoţ	• • • • • • • • • • • • • • • • • • • •	
Field Observations:		<u> </u>	lai rest (D3)	
	Depth (inches):			
	Depth (inches): 0			
	Depth (inches): 0	Wetland Hydrology Pres	ent? Yes <u>√</u> No	
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring v	veii, aeriai pnotos, previous inspec	tions), if available:		
Remarks:	•			
Soils completely saturated. Discharg	ge feature.			

**VEGETATION** – Use scientific names of plants.

Absolute	Dominan				
% Cover		t Indicator Status	Dominance Test worksheet:		
	•		Number of Dominant Species That Are OBL, FACW, or FAC: 6.0 (A)		
			Total Number of Dominant		
			Species Across All Strata: 6.0 (B)		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC:		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
= Total Cover					
			FACW species 35.0 x 2 = 70.0		
			FAC species 10.0 x 3 = 30.0 FACU species 0.0 x 4 = 0.0		
			UPL species x 5 =		
			Column Totals: 105.0 (A) 160.0 (B)		
			Prevalence Index = B/A = 1.5		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%		
0.0=	= Total Cover		✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>		
			4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
	<u>Y</u>		data in Remarks or on a separate sheet)		
	<u>Y</u>		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
	<u>Y</u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology must		
			be present, unless disturbed or problematic.		
	<u>Y</u>		Definitions of Vegetation Strata:		
	Y		Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
			at breast height (DBH), regardless of height.  Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
		FACW			
		_			
			<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
			Woody vines – All woody vines greater than 3.28 ft in		
			height.		
/oody Vine Stratum (Plot size: 30' )					
			Hydrophytic		
			Hydrophytic Vegetation Present?  Yes ✓ No		
		over			
=	= Total Co	over	rieseitt? Tes v No		

SOIL Sampling Point: wasb036e\_w

Profile Desc	cription: (Describe t	o the dep	oth needed	to docur	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>					Texture	Remarks	
0-15	7.5YR 2.5/2	95	7.5YR	3/4	5	С	M	SL	Distinct redox	
15-18	7.5YR 3/4	100						S		
					·					
<sup>1</sup> Type: C=C	oncentration, D=Deple	etion, RM	=Reduced M	latrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	: PL=Pore Lining, M=Matrix.	
Hydric Soil			5.			(Oo) (I D			for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1) pipedon (A2)			lue Belo\ R <b>A 149B</b> )	v Surface	(S8) ( <b>LR</b> )	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )	
Black Hi	stic (A3)						LRA 149B)	5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4) d Layers (A5)			-	/lineral (F1 Matrix (F2)		, L)		Surface (S7) ( <b>LRR K, L</b> ) Ilue Below Surface (S8) ( <b>LRR K, L</b> )	
Deplete	d Below Dark Surface	(A11)	Deplete	ed Matrix	(F3)			Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) /lucky Mineral (S1)				rface (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
<ul><li>Sandy Mucky Mineral (S1)</li><li>Depleted Dark Surface (F7)</li><li>Redox Depressions (F8)</li></ul>								Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)								arent Material (F21) Shallow Dark Surface (TF12)	
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)								Other (Explain in Remarks)		
	f hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	nt, unles	s disturbed	or problemation	<b>c</b> .	
	Layer (if observed):									
Type:								Hydric Soil Present? Yes ✓ No		
Depth (in	ches):		<del></del>					Tiyane 3011	Tresent: res_vno	
	n redox starting	g near	the surf	ace.						



wasb036e\_w\_E



wasb036e\_w\_N

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): KDF/SAM	
File #: wasb036	Date of visit(s): 10/02/2019	
Location: PLSS: <u>045N-003W-08</u>	Ecological Landsca Superior Coastal Plain	ape:
Lat: 46.388832 Long: -90.77663	Watershed: LS12, Marengo River	
County: Ashland Town/City/Village: Ashland town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: N/A	
92F Udorthents, ravines and escarpments Field Verified:	Wetland Type(s): PEM - fresh wet meadow	
Series not verified. Soils were sandy loam above sand.	Wetland Size: 0.01	Wetland Area Impacted 0.01
	Vegetation: Plant Community [	Description(s):
Hydrology: The hydrologic regime is seasonally saturated with discharge hydrology.	The plant comm species.	nunity is dominated by sedge

SITE MAP		

#### SECTION 1: Functional Value Assessment

1 N N Used for recreation (hunting, birding, hiking, etc.). List: 2 N N N Used for reducational or scientific purposes 3 N N N Visually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 1 N N Wetland and contiguous habitat >10 acres 2 N N 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover >50%(south) 75% (north) intact 5 N N 0ccurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh-shrub/emergent, wetland/upland complex,etc.) 7 N N Supports or provides habitat for SGCN or birds listed in the Will-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present >25 d days 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Standing water provides habitat for amphibians and aquatic invertebrates 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FFA N N Wetland is connected or contiguous with perennial stream or lake 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aqualic system 1 Y Y Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 2 N N Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Dense, persistent vegletation 4 N N Dense, persistent vegletation 5 N N Dense, persistent vegletation 6 N N N Dense, persistent vegletation 7 N N Dense, persistent vegletation 8 N N Potential for device or light yo		SECTION 1: Functional Value Assessment					
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3	1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:			
3	2	N	N	Used for educational or scientific purposes			
A   N   Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	N	N				
S N N	4						
S		- ' '					
Fig.   Fig.	5	N	N				
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	NI	NI				
Wildlife Habitat		IN	IN				
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2		N.I.	N.I.				
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4 N N   100 m buffer – natural land cover > 50%(south) 75% (north) intact							
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SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N D Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 2 N N Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs	-						
1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows − if no, not applicable  3 N N Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Provides substantial storage of storm and floodwater based on previous section 2 N N Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs		- ' '					
2         N         N         Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows − if no, not applicable           3         N         N         Densely rooted emergent or woody vegetation           ST         Storm and Floodwater Storage           1         Y         Y         Basin wetland, constricted outlet, has through-flow or is adjacent to a stream           2         Y         Y         Water flow through wetland is NOT channelized           3         N         N         Dense, persistent vegetation           4         N         N         Evidence of flashy hydrology           5         N         N         Point or non-point source inflow           6         N         N         Impervious surfaces cover > 10% of land surface within the watershed           7         N         N         Within a watershed with <10% wetland		V	V				
2		'					
ST   Storm and Floodwater Storage	2	N	N				
ST	3	NI	NI				
1       Y       Y       Basin wetland, constricted outlet, has through-flow or is adjacent to a stream         2       Y       Y       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with <10% wetland		IN	IN				
2       Y       Y       Water flow through wetland is NOT channelized         3       N       N       Dense, persistent vegetation         4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water         9       N       N       N       N		V	V				
3         N         N         Dense, persistent vegetation           4         N         N         Evidence of flashy hydrology           5         N         N         Point or non-point source inflow           6         N         N         Impervious surfaces cover >10% of land surface within the watershed           7         N         N         Within a watershed with ≤10% wetland           8         N         N         Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event           WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         N         N         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         N         N         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         Y         Y							
4       N       N       Evidence of flashy hydrology         5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       N Natural land cover in 100m buffer area < 50%							
5       N       N       Point or non-point source inflow         6       N       N       Impervious surfaces cover >10% of land surface within the watershed         7       N       N       Within a watershed with ≤10% wetland         8       N       N       Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event         WQ       Water Quality Protection         1       N       Y       Provides substantial storage of storm and floodwater based on previous section         2       N       N       Basin wetland or constricted outlet         3       Y       Y       Water flow through wetland is NOT channelized         4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       N Natural land cover in 100m buffer area < 50%							
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N	-						
WQ         Water Quality Protection           1         N         Y         Provides substantial storage of storm and floodwater based on previous section           2         N         N         Basin wetland or constricted outlet           3         Y         Y         Water flow through wetland is NOT channelized           4         Y         Y         Vegetated wetland associated with a lake or stream           5         N         N         Dense, persistent vegetation           6         N         N         Signs of excess nutrients, such as algae blooms, heavy macrophyte growth           7         N         N         Stormwater or surface water from agricultural land is major hydrology source           8         Y         Y         Discharge to surface water           9         N         N         Natural land cover in 100m buffer area < 50%	-						
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4       Y       Y       Vegetated wetland associated with a lake or stream         5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%							
5       N       N       Dense, persistent vegetation         6       N       N       Signs of excess nutrients, such as algae blooms, heavy macrophyte growth         7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	-	Υ	Υ				
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%  GW Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic	4	Υ	Υ				
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	5	N	N	Dense, persistent vegetation			
7       N       N       Stormwater or surface water from agricultural land is major hydrology source         8       Y       Y       Discharge to surface water         9       N       N       Natural land cover in 100m buffer area < 50%	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth			
8     Y     Y     Discharge to surface water       9     N     N     Natural land cover in 100m buffer area < 50%	-						
9 N N Natural land cover in 100m buffer area < 50%  Groundwater Processes  1 Y Y Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic							
GW Groundwater Processes  1 Y Y Springs, seeps or indicators of groundwater present  2 N N Location near a groundwater divide or a headwater wetland  3 N Y Wetland remains saturated for an extended time period with no additional water inputs  4 N N Wetland soils are organic							
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2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	$\vdash$	V	V				
3 N Y Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic							
4 N N Wetland soils are organic							
	-		· ·				
5   N   N   Wetland is within a wellhead protection area							
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	5	N	N	Wetland is within a wellhead protection area			

\ <b>\</b> /.	Idlifa Habita	at and Species Observation (including amphibians and reptiles)
Lis	t: direct ob	eservation, tracks, scat, other sign; type of habitat: nesting, migratory,
wir	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Herpetofauna
		itic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

GW-1: side-hill seep SP-1: associated with small ephemeral stream HU-4: garbage dumped in waterway nearby

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Carex crinita			PEM	Common
Equisetum pratense			PEM	Common
Juncus effusus			PEM	Common
Impatiens capensis			PEM	Common
Glyceria striata			PEM	Common
Carex tenera			PEM	Common
Bromus ciliatus			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is comprised of native vegetation with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
, ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		М	U	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

ı	The wetland and surrounding area is impacted by earthworm activity removing herbaceous vegetation, garbage dumping, and residential and roadway land use resulting in potential discharge to the wetland.
ľ	dumping, and residential and readway land use resulting in potential disortalize to the wettaria.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat					<b>√</b>
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage		<b>✓</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes			<b>√</b>		

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, no invasive species
Human Use Values	Private land, aesthetically degraded by trash input
Wildlife Habitat	One stratum present, patchy vegetation
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Associated with an ephemeral stream
Water Quality Protection	See above
Groundwater Processes	Evidence of groundwater processes by way of seeps and extended saturation

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-02
•			
Investigator(s): SAM/KDF	Section, Townshi	p, Range: 045N-003W-	08
Landform (hillslope, terrace, etc.): Side slope			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Kellogg-Allendale-As			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	√ No Is the Sar	npled Area	
Hydric Soil Present? Yes	No ✓ within a V	Vetland? Yes	No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or	in a separate report.)	ro within a macia ha	ordwood community
Sample recorded on the opposite	side of the wettand lead	he within a mesic na	arawood community.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl	neck all that apply)	Surface Soi	l Cracks (B6)
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	•	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	<ul><li>Recent Iron Reduction in Tilled S</li><li>Thin Muck Surface (C7)</li></ul>		Position (D2)
	Other (Explain in Remarks)	Shallow Aqu	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		al Test (D5)
Field Observations:		17.0 Neutra	11 1001 (20)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓
(includes capillary fringe)		etions) if available.	
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe-	ctions), if available:	
Remarks:			
No primary or secondary hydrolog	gy indicators present.		

**VEGETATION** – Use scientific names of plants.

·	6.			Sampling Point: <u>wasb036_u</u>
Tree Stratum (Plot size:30' )	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Betula alleghaniensis</u>			FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2. Betula papyrifera				
3. Acer rubrum				Total Number of Dominant Species Across All Strata: 5.0 (B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0 (A/B)
6				Prevalence Index worksheet:
7				
Capilia a/Charth Chartura (Diat since 15)	85.0	= 10(a) C0	vei	OBL species x 1 = FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')				FAC species 90.0 x3 = 270.0
1				FACU species 30.0 x 4 = 120.0
2				UPL species x 5 =0.0
3				Column Totals: <u>120.0</u> (A) <u>390.0</u> (B)
4				Dravialance Index D/A 2.2
5				Prevalence Index = B/A = 3.3
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	ver	
Herb Stratum (Plot size:)				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Athyrium angustum</u>	15.0_	Y	FAC	data in Remarks or on a separate sheet)
2. <u>Equisetum scirpoides</u>	10.0_	<u>Y</u>	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Carex gracillima</u>	5.0	N	<u>FACU</u>	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Carex pedunculata	5.0	N	FAC	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6		·		
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10			-	Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	35.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')		- 10101 00		
1				
2				Hudron busin
3		-		Hydrophytic Vegetation
4		T	· ——	Present?
	<u> </u>	= Total Co	ver	

SOIL Sampling Point: wasb036\_u

Profile Desc	cription: (Descril	oe to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		Loc <sup>2</sup>	Tautuus	Damada
(inches)	7.5YR 3/2		Color (moist)	<u> </u>	Type'	LOC	Texture	Remarks
		100		·			C	_
0 10	011( 1/ 1							
				· ———				
				· ———				
<sup>1</sup> Type: C=C	oncentration, D=D	epletion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: P	L=Pore Lining, M=Matrix.
Hydric Soil				0 (	(OO) (I DE		Indicators for	Problematic Hydric Soils <sup>3</sup> :
Histosol Histic E	(A1) pipedon (A2)		Polyvalue Below MLRA 149B)		(S8) (LRI	RR,		k (A10) ( <b>LRR K, L, MLRA 149B</b> ) iirie Redox (A16) ( <b>LRR K, L, R</b> )
Black H	istic (A3) en Sulfide (A4)		Thin Dark Surfa					ky Peat or Peat (S3) (LRR K, L, R) ace (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			, L)		Below Surface (S8) (LRR K, L)
-	d Below Dark Surf ark Surface (A12)	ace (A11)	Depleted Matrix Redox Dark Su					Surface (S9) (LRR K, L) ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1	)	Depleted Dark		7)			Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5) d Matrix (S6)							nt Material (F21) low Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R	, MLRA 149E	3)				Other (Ex	plain in Remarks)
			tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observe	d):						
Type:	chas):						Hydric Soil Pro	esent? Yes No✓_
Remarks:	CHES)						,	
No redox	k features no	or hydric s	soil indicators	observ	/ed.			



wasb036\_u\_E



wasb036\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasb034s_w
Investigator(s): SAM/KDF	Section, Township	p, Range: <u>045N-003W-</u>	08
Landform (hillslope, terrace, etc.): Floodplain			
Subregion (LRR or MLRA): Northcentral Forests Lat			
Soil Map Unit Name: <u>Udorthents, ravines and</u>			
Are climatic / hydrologic conditions on the site typical f		•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site n	map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u>	No Is the San	npled Area	
	No within a W	/etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes   ✓		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)		
A floodplain wetland associated with	h a stream feature. Prin	narily a shrub syster	n dominated by black
ash.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; chec	ck all that apply)	Surface Soil	
✓ Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	
	_ Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	Crayfish Bui	rrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation V	/isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)  Field Observations:		FAC-Neutra	Il Test (D5)
Surface Water Present? Yes ✓ No	Donth (inches): 2		
Water Table Present? Yes _ ✓ No			
Saturation Present? Yes _ / No	_ , , ,	Wetland Hydrology Prese	nt? Yes ✓ No
(includes capillary fringe)			III: 165 <u>v</u> 110
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	ctions), if available:	
Remarks:		_	
Part of a floodplain system not nece	essarily with a temporar	ily flooded hydrolog	ic regime but rather
saturated.			

**VEGETATION** – Use scientific names of plants.

inant Indicator Status  / FACW  al Cover  / FACW  Al Cover  / FACW  N OBL  N FACW	Total Number of Dominant Species Across All Strata:  Percent of Dominant Species That Are OBL, FACW, or FAC:  Total % Cover of:  Multiply by:  OBL species  10  FACW species  135  FAC species  0  FACU species  0  VA =  0  UPL species  0  Column Totals:  145  (A)  Prevalence Index = B/A =  1.93  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
Al Cover  FACW  Al Cover  FACW  OBL  FACW	That Are OBL, FACW, or FAC:
Al Cover  Al Cover  Al Cover  Al Cover  Al Cover  Al OBL  N FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:    100.00
Al Cover  FACW  Al Cover  FACW  OBL  FACW	That Are OBL, FACW, or FAC:
FACW  FACW  FACW  OBL  FACW	Prevalence Index worksheet:
FACW  FACW  FACW  FACW  OBL  FACW	Total % Cover of:  OBL species 10 x1 = 10  FACW species 135 x2 = 270  FAC species 0 x3 = 0  FACU species 0 x4 = 0  UPL species 0 x5 = 0  Column Totals: 145 (A) 280 (B)  Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
FACW  FACW  All Cover  FACW  OBL  FACW	OBL species 10 x1 = 10  FACW species 135 x2 = 270  FAC species 0 x3 = 0  FACU species 0 x4 = 0  UPL species 0 x5 = 0  Column Totals: 145 (A) 280 (B)  Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
FACW  FACW  FACW  FACW  FACW	FACW species 135 x 2 = 270  FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 145 (A) 280 (B)  Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
al Cover  / FACW N OBL N FACW	FAC species 0 x 3 = 0  FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 145 (A) 280 (B)  Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
al Cover  / FACW N OBL N FACW	FACU species 0 x 4 = 0  UPL species 0 x 5 = 0  Column Totals: 145 (A) 280 (B)  Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
Al Cover  FACW OBL FACW	Column Totals:145(A)280(B)  Prevalence Index = B/A =1.93  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is >50%  3 - Prevalence Index is ≤3.0¹  4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
Al Cover  FACW OBL FACW	Prevalence Index = B/A = 1.93  Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
FACW OBL FACW	Hydrophytic Vegetation Indicators:  ✓ 1 - Rapid Test for Hydrophytic Vegetation  ✓ 2 - Dominance Test is >50%  ✓ 3 - Prevalence Index is ≤3.0¹  — 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  — Problematic Hydrophytic Vegetation¹ (Explain)
FACW OBL FACW	
FACW FACW FACW	
FACW OBL FACW	✓ 2 - Dominance Test is >50%     ✓ 3 - Prevalence Index is ≤3.0¹     ✓ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)     ✓ Problematic Hydrophytic Vegetation¹ (Explain)  Indicators of hydric soil and wetland hydrology must
/ FACW N OBL N FACW	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
OBL FACW	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)  ¹Indicators of hydric soil and wetland hydrology must
FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
FACW	Indicators of hydric soil and wetland hydrology must
	be present, unless disturbed or problematic.
	Definitions of Vegetation Strata:
	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
	Sapling/shrub – Woody plants less than 3 in. DBH
	and greater than or equal to 3.28 ft (1 m) tall.
	Herb – All herbaceous (non-woody) plants, regardless
	of size, and woody plants less than 3.28 ft tall.
	<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
al Cover	
	Hydrophytic
	Vegetation Present? Yes ✓ No
al Cover	
tá	tal Cover

SOIL Sampling Point: wasb034s\_w

Profile Desc	ription: ([	Describe	to the dep	th needed to docun			or confirm	the absence of	indicators.)
Depth (inches)	Color (	Matrix moist)	%	Color (moist)	Features     %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3	5YR	3/3	100			.,,,,,		SCL	· · · · · · · · · · · · · · · · · · ·
3-15	5YR	3/3	100					C	
		<u> </u>	100						
									-
-									
-									
									_
1Type: C=Cc	ncentration	n D-Deni	etion RM	=Reduced Matrix, MS		Sand Gr		<sup>2</sup> Location: P	PL=Pore Lining, M=Matrix.
Hydric Soil I			Ction, rtivi	-reduced Matrix, Me	-Waskea	Odria Ore			Problematic Hydric Soils <sup>3</sup> :
Histosol				Polyvalue Below		(S8) ( <b>LRF</b>	RR,		k (A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic Ep	ipedon (A2	2)		MLRA 149B) Thin Dark Surfa		DD D MI	DA 140B)		hirie Redox (A16) ( <b>LRR K, L, R</b> ) ky Peat or Peat (S3) ( <b>LRR K, L, R</b> )
	n Sulfide (A	<del>\</del> 4)		Loamy Mucky M					ace (S7) (LRR K, L)
	Layers (A			Loamy Gleyed N		)			Below Surface (S8) (LRR K, L)
	Below Da rk Surface		e (A11)	<ul><li>Depleted Matrix</li><li>Redox Dark Sur</li></ul>					Surface (S9) (LRR K, L) ganese Masses (F12) (LRR K, L, R)
	ucky Mine			Depleted Dark S		7)		-	Floodplain Soils (F19) (MLRA 149B)
	leyed Matr	ix (S4)		Redox Depressi	ons (F8)				odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	edox (S5) Matrix (S6	`							nt Material (F21) low Dark Surface (TF12)
	face (S7) (		ILRA 149	3)					plain in Remarks)
<sup>3</sup> Indicators of	hydrophyt	ic vegetat	ion and w	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive L				, , , , , , , , , , , , , , , , , , , ,		,			
Туре:									
Depth (inc	:hes):							Hydric Soil Pre	esent? Yes <u>√</u> No
Remarks:	00411	watlar	- d C -:			برالمسا	مرمامامس	actic due to	the periodic
				ls are consider n a floodplain.	ed nai	urally	problem	natic due to	the periodic
Seament	alion a	SSOCIA	tea witi	i a ilooupiairi.					



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wasb034s\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): KDF/SAM	
File #: wasb034	Date of visit(s): 10/02/2019	
Location: PLSS: 045N-003W-08	Ecological Landsca Superior Coastal Plain	ape:
Lat: <u>46.389045</u> Long: <u>-90.775407</u> County: <u>Ashland</u> Town/City/Village: <u>Ashland town</u>	Watershed: LS12, Marengo River	
SITE DESCRIPTION		
Soils: Mapped Type(s): 92F Udorthents, ravines and escarpments, 388B Pelkie, occasionally flooded-Dechamps, frequently flooded, complex Field Verified:	WWI Class: N/A Wetland Type(s): PSS - floodplain	forest
Series not verified. Soils were sandy clay loam above clay.	Wetland Size: 0.06	Wetland Area Impacted 0.06
Hydrology: The hydrologic regime is seasonally saturated within the floodplain.	shrub cover. Gly	Description(s): xinus nigra dominates the rceria striata and Impatiens ate the herbaceous

 SITE MAP	

#### SECTION 1: Functional Value Assessment

HU   Y/N   Potential   Human Usa Values: recreation, culture, education, science, natural scenic beauty			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N Visually or physically accossible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 Y Y Lor adjacent to RED FLAG areas 6 N Y Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wild Wildlife Habitat 1 N N Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (> 10% cover) 3 N N Within or adjacent to labitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover \$50% (south) 75% (north) intact 6 N N Occurs in a Joint Venture priority forwarsh, which we represent (> 10% cover) 6 N Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present > 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) 13 FA Part of a large habitat bird or amphibians and aquatic invertebrates 14 Y Y Wetland is connected or contiguous with perennial stream or lake 15 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 16 N Y Vegetation is inundated in spring 17 Part of the provides habitat for amphibians and aquatic invertebrates 18 N Y Y Vegetation is inundated in spring 19 Shorteline Protection 19 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 19 N N N Natural Heritage Inventory (NHI) listed aquatic species within inquatic system 19 Y Y Vegetation is inundated in spring 19 Shorteline Protection 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 10 Y Y Y Standing water provides habitat for amphibians and a	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A	3	N	N	
S	4			
Section   Sec				
6 N Y Supports or provides habitat for endangered, threatened or special concern species 7	5	Υ	Y	
In or adjacent to archaeological or cultural resource site   Wildlife Habitat	6	NI		
Wildlife Habitat		IN		
1 N N Wetland and contiguous habitat >10 acres 2 Y Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer – natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present > 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditate present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 Y Y Evidence of flashry hydrology 5 N N Point or non-point source inflow Water Guality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Dense, persistent vegetation 7 N N Sidning associated with a lake or stream 8 N N Dense, persistent vegetation 9 N N N N Hatural land cover in 100				
2		N.I.	N.I.	
3				
4			_	
5 N N Occurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 5P Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y Densell for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation 5T Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 Y Y Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Point or non-point source inflow 8 N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 Y Y V Segetated wetland associated with a lake or stream 9 N N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 9 N N N Stormwater or surface water from agricultural land is major hydrology source 1 Y Y Sig				
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.)   Record   New Y	$\vdash$			
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				Occurs in a Joint Venture priority township
N	6	N	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
8 N Y Part of a large habitat block that supports area sensitive species  9 N Y Ephemeral pond with water present ≥ 45 days  10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  11 N N Seasonally exposed mudifats present  12 N N Provides habitat scarce in the area (urban, agricultural, etc.)  Fish and Aquatic Life Habitat  1 Y Y Wetland is connected or contiguous with perennial stream or lake  2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N NAtural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  SP Shoreline Protection  1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates  3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system  4 N Y Vegetation is inundated in spring  SP Shoreline Protection  1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable  2 Y Potential for crosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable  3 Y Densely rooted emergent or woody vegetation  ST Storm and Floodwater Storage  3 Y Water flow through wetland is NOT channelized  4 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  4 Y Y Evidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces cover > 10% of land surface within the watershed  7 N N Within a watershed with <10% wetland  8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event  WQ Water flow through wetland is NOT channelized  4 Y Y Provides substantial storage of storm and floodwater based on previous section  5 N N N Dense, persistent vegetation  6 Y Y Signs of excess nutrients, such as algae blooms, heavy macrophyte growth  7 N N Stormwater or surface water fr	7	N		
9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N NAtural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable or applicable or soil or provides or high flows - if no, not applicable or applicable or subject to the stream of the provides or high flows - if no, not applicable or subject to the stream of the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or subject to the provides or high flows - if no, not applicable or provides and provides or high flows - if no, not applicable or provides and provides or high flows - if no, not applicable or provides applicable or high flow or provides applicable or high flow or is adjacent to a stream  1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream  2 Y Y Vidence of flashy hydrology  5 N N Point or non-point source inflow  6 N N Impervious surfaces over > 10% of land surface within the watershed				
10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, take, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y Detential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Poensely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 Y Y Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Poetential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 4 Y Y Water flow through wetland is NOT channelized 5 N N Dense, persistent vegetation 6 Y Y Basin wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Stormwater or surface water from agricultural land is major hydrology source 7 N N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% 6 Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland soils are organi				
11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 Y Y Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 3 Y Y Water flow through wetland is NOT channelized 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y V egetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 Y Y Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Discharge to surface water 9 N N Natural land cover in 100m buffer area <				
12		Υ	Y	
FA		N	N	Seasonally exposed mudflats present
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4 N N Wetland soils are organic				
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5   N   N   Wetland is within a wellhead protection area	-			
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: Private land, accessible to public via stream only but would not support boat traffic WH-6: habitat diversity due to proximity of stream and upland forested area WH-10: likely flooded after precipitation events, though seasonally saturated WQ-5: patchy vegetation FA-2: shallow standing water in center of wetland GW-1: iron deposits in standing water of wetland Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Thuja occidentalis			PSS	Common
Fraxinus nigra			PSS	Abundant
Glyceria striata			PSS	Common
Impatiens capensis			PSS	Common
Equisetum pratense			PSS	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The vegetation is representative of plant community with no observed invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
7					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
Х			М	С	Sediment input
V	V		B. //	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is impacted by flooding events from fluctuating water levels of the adjacent stream and earthworm
activity evidenced by unvegetated areas within the wetland. The surrounding area is impacted by earthworm activity
removing herbaceous vegetation.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE								
Γ	Low	Medium	High	Exceptional	NA				
Floristic Integrity		<b>✓</b>							
Human Use Values	<b>√</b>								
Wildlife Habitat		<b>√</b>							
Fish and Aquatic Life Habitat	<b>√</b>								
Shoreline Protection	<b>√</b>								
Flood and Stormwater Storage			<b>√</b>						
Water Quality Protection			<b>√</b>						
Groundwater Processes		<b>√</b>							

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, low diversity
Human Use Values	Private land
Wildlife Habitat	Adjacent to upland forest and stream
Fish and Aquatic Life Habitat	Shallow standing water to support aquatic invertebrates, would not support fish
Shoreline Protection	Small area abutting the stream
Flood and Stormwater Storage	Floodplain, closed basin
Water Quality Protection	See above, associated with a stream
Groundwater Processes	Apparent iron deposits

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-02
Investigator(s): SAM/KDF			
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Pelkie, occasionally flooded-De			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
			,
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	npled Area	
	NO <u> </u>	/etland? Yes	No <u> </u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here of Mesic hardwood system that abut	r in a separate report.)		
Weste narawood system that abut	s a stream reature.		
HYDROLOGY		Casandani ladia	atoma (asiaisassas af tsua maguinad)
Wetland Hydrology Indicators:	and all that apply)	<del></del>	ators (minimum of two required)
Primary Indicators (minimum of one is required; cl Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soi Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim I	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	· · ·
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation \	/isible on Aerial Imagery (C9)
1 <del></del>	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		c Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	· -	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	al Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspec	xions), if available:	
Remarks:	the etween feeture to the	and and watland to	the weet
Situated several feet higher than	the stream leature to the	east and wettand to	the west.

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants					Sampling Point: wasb034_u
Tree Stratum (Plot size: 30')	Absolute % Cover			Indicator Status	Dominance Test worksheet:
1. Acer saccharum	50.0			<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:1_0 (A)
2. <u>Tilia americana</u>	20.0		_	<u>FACU</u>	Total Number of Dominant
3					Species Across All Strata: 3.0 (B)
4					Percent of Dominant Species
5					That Are OBL, FACW, or FAC: 33.3333333333333333333333333333333333
6					Prevalence Index worksheet:
7					Total % Cover of: Multiply by:
	70.0	_ = Tota	al Cov	/er	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size:)					FACW species0.0 x 2 =0.0
1					FAC species <u>60.0</u> x 3 = <u>180.0</u>
2					FACU species <u>77.0</u> x 4 = <u>308.0</u>
3					UPL species $0.0 \times 5 = 0.0$
4.					Column Totals: <u>137.0</u> (A) <u>488.0</u> (B)
5					Prevalence Index = B/A =3.6
6.					Hydrophytic Vegetation Indicators:
7					1 - Rapid Test for Hydrophytic Vegetation
	0.0			/er	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		_			3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Amphicarpaea bracteata	50.0	\	1	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Symphyotrichum lateriflorum			1	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Prunus serotina</u>			J	FACU	
4. Equisetum hyemale			1	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Fragaria virginiana</u>			1	FACU	,
6					Definitions of Vegetation Strata:
7					<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.					Sapling/shrub – Woody plants less than 3 in. DBH
9.					and greater than or equal to 3.28 ft (1 m) tall.
10					Herb – All herbaceous (non-woody) plants, regardless
11.					of size, and woody plants less than 3.28 ft tall.
12.					Woody vines – All woody vines greater than 3.28 ft in
	67.0	= Tota	al Co	/er	height.
Woody Vine Stratum (Plot size:30')					
1					
2.					
3.					Hydrophytic
4					Vegetation
	0.0			/er	Present? Yes No✓_
Remarks: (Include photo numbers here or on a separate Upland dominated by sugar maple with layer is dominated by hog peanut with	n bassw			very lit	tle shrub cover. Most of the ground

SOIL Sampling Point: wasb034\_u

			to the dep				or confirm	the absence of indica	itors.)
Depth (inches)	Color (r	Matrix moist)	%	Color (moist)	<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	7.5YR		100					S	
2-18									
	0111	0/0	100						
			·						
			·						
¹Type: C=C	oncentration	n, D=Dep	letion, RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Por	re Lining, M=Matrix.
Hydric Soil	Indicators:							Indicators for Prob	lematic Hydric Soils <sup>3</sup> :
Histosol	l (A1) pipedon (A2	)		Polyvalue Below MLRA 149B)		(S8) ( <b>LR</b>	RR,		) (LRR K, L, MLRA 149B) edox (A16) (LRR K, L, R)
	istic (A3)	.)		Thin Dark Surfa		.RR R, MI	RA 149B)		at or Peat (S3) (LRR K, L, R)
	en Sulfide (A			Loamy Mucky M			, L)	Dark Surface (S	
	d Layers (At d Below Dar		e (A11)	<ul><li>Loamy Gleyed I</li><li>Depleted Matrix</li></ul>		)			v Surface (S8) (LRR K, L) ce (S9) (LRR K, L)
Thick Da	ark Surface	(A12)	- (	Redox Dark Sui	face (F6)			Iron-Manganese	e Masses (F12) (LRR K, L, R)
	Mucky Miner			Depleted Dark S		7)			plain Soils (F19) ( <b>MLRA 149B</b> )
	Gleyed Matri Redox (S5)	X (54)		Redox Depress	ions (Fo)			Red Parent Mate	(A6) ( <b>MLRA 144A, 145, 149B</b> ) erial (F21)
Stripped	d Matrix (S6)							Very Shallow Da	ark Surface (TF12)
Dark Su	ırface (S7) (I	LRR R, N	/ILRA 149I	3)				Other (Explain in	n Remarks)
<sup>3</sup> Indicators o	f hydrophyti	c vegetat	tion and we	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if ob	served):							
Type:								Undria Cail Brasant	) Vaa Na (
	ches):							Hydric Soil Present	? Yes No <u>√</u>
Remarks: Well drai	ined san	ndv so	ils with	no signs of re	dox or	hydric	soil ind	licators	
vvoii arai	irioa oar	idy oo	110 111111	no digno di 10	dox or	rry arro	0011 1110	noatoro.	



wasb034\_u\_N



wasb034\_u\_SW

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashla	and Sampling Date: 2019-09-25
•		State: WI Sampling Point: wase020e_w
<u> </u>		Range: 045N-003W-08
		onvex, none): None Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): Northcentral Forests La	t: 46.388197	ong: <u>-90.775080</u> Datum: <u>WGS84</u>
		percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical		
		e "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil _ ✓ _, or Hydrology		
SUMMARY OF FINDINGS – Attach site i	nap snowing sampling point	locations, transects, important features, etc.
	No Is the Sample	
		and? Yes <u>√</u> No
		al Wetland Site ID:
Remarks: (Explain alternative procedures here or in Floodplain of Trout Brook. Bounded	a separate report.) I by mesic forest on adiac	ent slope and terrace.
Troodplain of Trout Brook. Boarded	a by mesic forest on adjac	ioni siope and terrade.
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; che	ck all that apply)	
	Water-Stained Leaves (B9)	Drainage Patterns (B10)
	_ Aquatic Fauna (B13)	Moss Trim Lines (B16)
	Marl Deposits (B15)	✓ Dry-Season Water Table (C2)
	_ Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
		oots (C3) Saturation Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
	Recent Iron Reduction in Tilled Soils	
Iron Deposits (B5)	_ Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No✓	Depth (inches):	
Water Table Present? Yes _ ✓ No	Depth (inches): 13	
	Depth (inches): 10 V	Vetland Hydrology Present? Yes No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspectio	ns), if available:
	,	
Remarks:		
Floodplain with sediment and drift of	deposits.	

**VEGETATION** – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
2.				, , ,
3				Total Number of Dominant Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Cov		OBL species4 x1 =4
Sapling/Shrub Stratum (Plot size: 15' )		_ 10tai 00t		FACW species16 x 2 =32
1. Salix eriocephala	10	Υ	FACW	FAC species 10 x 3 = 30
2. Salix petiolaris				FACU species 2 x 4 = 8
3				UPL species0 x 5 =0
4				Column Totals:(A)(B)
5				Prevalence Index = B/A = 2.31
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		- 10tai 00t	.01	3 - Prevalence Index is ≤3.0¹
1. Agrostis hyemalis	5	Υ	FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Phalaris arundinacea		Υ	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Equisetum hyemale		Y	FAC	
4. Melilotus officinalis	_		FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Juncus effusus	0	N	OBL	Definitions of Vegetation Strata:
6. <u>Juncus brevicaudatus</u>		N	OBL	
7. Stachys palustris		N	OBL	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation
	0	= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate vegetation is patchy. Some areas are of		vegetat	ed, othe	ers nearly bare.

Sampling Point: wase020e\_w

SOIL Sampling Point: wase020e\_w

	cription: (Describe	to the dep				or confirm	the absence of i	ndicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	7.5YR 3/3						S	
0 10	1.0111 0/0	100						
								_
	·							
	· -							
	Concentration, D=Dep	letion, RM:	Reduced Matrix, MS	=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
Hydric Soil				0 (	(OO) (I DI			Problematic Hydric Soils <sup>3</sup> :
Histoso	pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRI	RR,		(A10) ( <b>LRR K, L, MLRA 149B</b> ) irie Redox (A16) ( <b>LRR K, L, R</b> )
	listic (A3)		Thin Dark Surfa		.RR R, MI	RA 149B)		xy Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky M			, <b>L</b> )		ace (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	e (A11)	<ul><li>Loamy Gleyed Matrix</li></ul>		)			Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L)
	ark Surface (A12)	0 (////)	Redox Dark Sur					anese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S		7)			Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox Depressi	ons (F8)				dic (TA6) ( <b>MLRA 144A, 145, 149B</b> ) at Material (F21)
	d Matrix (S6)							ow Dark Surface (TF12)
	urface (S7) (LRR R, I	VILRA 1491	3)					plain in Remarks)
<sup>3</sup> Indicators o	of hydrophytic vegeta	tion and we	etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):	:						
Туре: <u>R</u>	ock							
	nches): <u>16</u>						Hydric Soil Pre	esent? Yes/ No
Remarks:	rofilo with no h	ovalnia ir	diantara at tim	o of o		Moturo	lly probleme	tio due to frequent
		-			-			tic due to frequent
Sedimen	itation from flo	ouilig. i	YOCK ELICOULIE	ereu ai	10 1110	iles be	iow suriace.	



wase020e\_w\_N



wase020e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK		
File #: wase020	Date of visit(s): 09/25/2019		
Location: PLSS: <u>045N-003W-08</u>	Ecological Landsca Superior Coastal Plain	pe:	
Lat: 46.38823 Long: -90.774931	Watershed: LS12, Marengo River		
County: <u>Ashland</u> Town/City/Village: <u>Ashland town</u>			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
388B Pelkie, occasionally flooded-Dechamps, frequently flooded, complex	Wetland Type(s): PEM - fresh wet meadow		
Field Verified:			
Series not verified. Soils were a sand above rock, caused by frequent sedimentation from flooding.	Wetland Size:	Wetland Area Impacted 1.16	
, ,	Vegetation: Plant Community D	escription(s):	
Hydrology: The hydrologic regime is temporarily flooded with recharge hydrology.	The vegetation is wetland. The her	s sparse within the floodplain baceous layer is dominated dinacea and Agrostis	

SITE MAP		

#### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	Υ	Y	List: Trout streams: Trout Brook
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	11	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	_		Occurs in a Joint Venture priority township
6	N	N	Interpretation of habitat atructure (hami march abrub/amargant, watland/unland complay etc.)
0	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Υ	Y	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Ϋ́	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	Y	Y	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
	\ <u>'</u>		
1	Y	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	Υ	Y	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N N	Wetland is within a wellhead protection area
	ı IV	IN	vvotiano is within a weilheau protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: private land, dense vegetation limits accessibility, adjacent stream would not support boat use WH-6: wetland nested among diverse wildlife habitat (mesic forest, stream) WH-10: standing water may be present after rain events GW-3: saturated after rain events causing flooding along stream Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Herpetofauna, insects Pileated woodpecker (located along margin of wetland) Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Train community intogrity (oncio)					
	Low	Medium	High	Exceptional	
Invasive species cover	> 50%	20-50%	10-20%	<10%	
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented	
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)	
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare	
FQI (optional)	<13	13-23	23-32	>32	
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7	

<sup>\*</sup>Note: separate plant communities are described independently

#### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Salix eriocephala			PEM	Common
Salix petiolaris			PEM	Uncommon
Agrostis hyemalis			PEM	Uncommon
Phalaris arundinacea			PEM	Uncommon
Equisetum hyemale			PEM	Uncommon
Melilotus officinalis			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Juncus brevicaudatus			PEM	Uncommon
Stachys palustris			PEM	Uncommon

# SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Vegetation present within the wetland is sparse and comprised of mostly native vegetation.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
•					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
Х			Н	С	Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
Х	Х	Х	Н	U	Removal of tree or shrub strata – logging,
X	^	^	П		unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The wetland is a floodplain heavily impacted by previous logging activity and flooding events that increase sedimentation, rendering most of the wetland unvegetated.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity	<b>√</b>								
Human Use Values	<b>√</b>								
Wildlife Habitat	<b>√</b>								
Fish and Aquatic Life Habitat	<b>√</b>								
Shoreline Protection	<b>√</b>								
Flood and Stormwater Storage			<b>√</b>						
Water Quality Protection			<b>√</b>						
Groundwater Processes		<b>✓</b>							

FUNCTION	RATIONALE
Floristic Integrity	Mostly native vegetation, but sparse overall cover
Human Use Values	Private land, low aesthetic of floodplain
Wildlife Habitat	Sparse vegetation, missing strata
Fish and Aquatic Life Habitat	Potentially flooded after rain events which could support aquatic invertebrates
Shoreline Protection	No densely rooted vegetation
Flood and Stormwater Storage	Closed basin, associated with stream
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology, potential for extended saturation

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-09-25			
•	State: WI Sampling Point: wase020_u			
Investigator(s): ARK/KDF	Section, Township, Range: 045N-003W-08			
	Local relief (concave, convex, none): None Slope (%): 0-2%			
	116 Long: <u>-90.774282</u> Datum: <u>WGS84</u>			
	ents, 25 to 60 percent slopes NWI classification:			
Are climatic / hydrologic conditions on the site typical for this time of				
	ntly disturbed? Are "Normal Circumstances" present? Yes ✓ No			
	/ problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS – Attach site map show	ing sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area			
Hydric Soil Present? Yes No _✓				
Wetland Hydrology Present? Yes No/				
Remarks: (Explain alternative procedures here or in a separate r	eport.)			
Mesic forest on a stream terrace.				
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check all that ap	oly) Surface Soil Cracks (B6)			
Surface Water (A1) Water-Stain	ned Leaves (B9) Drainage Patterns (B10)			
High Water Table (A2) Aquatic Fa	una (B13) Moss Trim Lines (B16)			
Saturation (A3) Marl Depos				
	Sulfide Odor (C1) Crayfish Burrows (C8)			
	hizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)			
	f Reduced Iron (C4) Stunted or Stressed Plants (D1)			
	Reduction in Tilled Soils (C6) Geomorphic Position (D2)			
Iron Deposits (B5) Thin Muck				
	ain in Remarks) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)  Field Observations:	FAC-Neutral Test (D5)			
Surface Water Present? Yes No _ ✓ Depth (inc	hes):			
Water Table Present? Yes No _ ✓ Depth (inc				
Saturation Present? Yes No _ ✓ Depth (inc				
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring well, aerial p	hotos, previous inspections), if available:			
Remarks:				
No indicators of wetland hydrology were obs	served.			

**VEGETATION** – Use scientific names of plants.

				Sampling Point: <u>wase020</u> _			
Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:			
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)			
Populus grandidentata							
3. Betula papyrifera				Total Number of Dominant Species Across All Strata: 5 (B)			
4. Pinus sylvestris			1700				
5. <u>Tilia americana</u>			EACH	Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/E			
				, , ,			
6				Prevalence Index worksheet:			
7				Total % Cover of: Multiply by:			
451	_110_	= Total Co	ver	OBL species			
Sapling/Shrub Stratum (Plot size: 15')				FACW species5			
1				FACU species 109 x 4 = 436			
2	·			UPL species $0 \times 5 = 0$			
3				Column Totals: 124 (A) 476 (B)			
4							
5				Prevalence Index = B/A = 3.84			
6				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
	0	= Total Co	ver	∠ 2 - Dominance Test is >50%			
Herb Stratum (Plot size: 5' )				3 - Prevalence Index is ≤3.0¹			
1. <u>Matteuccia struthiopteris</u>	5	Υ	FAC	<ul> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> </ul>			
2. Equisetum pratense		Υ	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
3. Osmunda claytoniana	-		FAC				
4. <u>Pteridium aquilinum</u>			FACU				
5. Thalictrum thalictroides			FACU				
				Definitions of Vegetation Strata:			
6.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter			
7				at breast height (DBH), regardless of height.			
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
9			·				
10		·		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
11							
12				Woody vines – All woody vines greater than 3.28 ft in height.			
	19	= Total Co	ver				
Woody Vine Stratum (Plot size: 30')							
1							
1				Hydrophytic			
2				Hydrophytic Vegetation Present?  Yes No _ ✓			

SOIL Sampling Point: wase020\_u

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix	0/		x Features		1 2 2	Tauduma	Remarks
(inches) 0-14	7.5YR 3/2	100	Color (moist)	%	Type'	Loc <sup>2</sup>	LFS	Remarks
	5YR 3/3						LFS	
1720	0110 0/0	100		· <del></del>				
		· <del></del> -		· <del></del>				
		· <del></del> -		· <del></del>				
		. ———		·	•			
		· <del></del> ·		·				
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=	=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	·					Indicators for P	roblematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) ( <b>LRF</b>	RR,		(A10) ( <b>LRR K, L, MLRA 149B</b> ) e Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3)		Thin Dark Surfa	ice (S9) ( <b>L</b>			5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		e (S7) ( <b>LRR K, L</b> ) elow Surface (S8) ( <b>LRR K, L</b> )
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark S	urface (S9) (LRR K, L)
	ark Surface (A12) Nucky Mineral (S1)		Redox Dark Sul Depleted Dark S				-	nese Masses (F12) (LRR K, L, R) oodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress		1)			ic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)							Material (F21)
	I Matrix (S6) rface (S7) (LRR R, N	ILRA 149B	)					w Dark Surface (TF12) ain in Remarks)
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
	ches):		<u> </u>				Hydric Soil Pres	ent? Yes No <u>√</u>
Remarks:								
No indica	ators of hydric	soils w	ere observed					



wase020\_u\_N



wase020\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/0	County: Ashland		Sampling Date: <u>2019-09-06</u>	
Applicant/Owner: Enbridge	•				Sampling Point: wasb007f_w	
· ·					)8	
			·		Slope (%): <u>0-2%</u>	
					Datum: WGS84	
					ation:	
Are climatic / hydrologic conditi		•	•			
					oresent? Yes No	
Are Vegetation, Soil						
-	-					
SUMMARY OF FINDING	S – Attach site	e map showing sar	npling point locat	ions, transects	, important features, etc.	
Hydrophytic Vegetation Present? Yes No Is the Sampled Area						
Hydric Soil Present?	Hydric Soil Present? Yes No within a Wetland?					
Wetland Hydrology Present?  Remarks: (Explain alternative		✓ No	If yes, optional Wetlan	nd Site ID:		
Small black asir dep	ression suno	dilded by mesic	naruwoous wiin	Thear continu	ous graminoid cover.	
HYDROLOGY						
Wetland Hydrology Indicato	ors:			Secondary Indica	tors (minimum of two required)	
Primary Indicators (minimum	of one is required; c	check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage Patterns (B10)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Oc		Crayfish Buri		
Sediment Deposits (B2)					sible on Aerial Imagery (C9)	
Drift Deposits (B3) Algal Mat or Crust (B4)		<ul><li>Presence of Reduce</li><li>Recent Iron Reduction</li></ul>	, ,	Stunted or St Geomorphic	tressed Plants (D1)	
Iron Deposits (B5)		Thin Muck Surface (		Shallow Aqui		
Inundation Visible on Aer		Other (Explain in Re		Microtopogra		
Sparsely Vegetated Cond			,	FAC-Neutral		
Field Observations:					, ,	
Surface Water Present?	Yes No	✓ Depth (inches):				
Water Table Present?	Yes No	✓ Depth (inches):				
Saturation Present? (includes capillary fringe)	Yes No	✓ Depth (inches):	Wetland	l Hydrology Presen	t? Yes No	
Describe Recorded Data (stre	eam gauge, monitori	ing well, aerial photos, pre	evious inspections), if a	vailable:		
Remarks:						
Recharge feature w	ith seasonally	saturated hydro	logy.			
	,	,	37			

<b>VEGETATION</b> – Use scientific names of plants.	ı			Sampling Point: wasb007f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:
1. Fraxinus nigra				Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. <u>Tilia americana</u>			FACU	
3. Acer saccharum				Total Number of Dominant Species Across All Strata: 4 (B)
4				
				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0.15.701.1.01.4.701.4.5.4.71	90.0	= Total Co	ver	OBL species 0 x 1 = 0 FACW species 160 x 2 = 320
Sapling/Shrub Stratum (Plot size: 15')	<b>5</b> 0	<b>V</b>	E 4 0) 4 /	FAC species 12 x3 = 36
1. <u>Ulmus americana</u>				FACU species15 x 4 =60
2. <u>Fraxinus nigra</u>				UPL species 0 x 5 = 0
3				Column Totals: <u>187</u> (A) <u>416</u> (B)
4				Descriptions Indiana D/A
5				Prevalence Index = B/A =2.22
6				Hydrophytic Vegetation Indicators:
7		· <del></del>		1 - Rapid Test for Hydrophytic Vegetation
	10	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0 <sup>1</sup> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Carex cf. bromoides	75.0	Y	<b>FACW</b>	data in Remarks or on a separate sheet)
2. Athyrium angustum	_10.0	N	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Arisaema triphyllum			FAC	
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	87.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4		· ·		Vegetation   Present?   Yes ✓ No
	0.0	= Total Co	ver	Tresent: Tes v No
Remarks: (Include photo numbers here or on a separate s	sheet.)			
Primarily dominated by C. bromoides in				
Carex intumescens. Primarily black ash	າ in the i	immedi	ate area	l.

SOIL Sampling Point: wasb007f\_w

Profile Des	cription: (Describe	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix	0/	Calar (		x Features		1.22	Taurtuma	Damada
(inches) 0-4	Color (moist) 10YR 3/2	100	Color (r	moist)	<u> %</u>	Type'	Loc <sup>2</sup>	Texture SIL	Remarks
4-10	10YR 3/2		5YR	5/8	20	С	M	SIL	Prominent redox
	5YR 5/4					С	M	SIL	
Type: C=C Hydric Soil Histic E Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy R Sandy F Stripped	oncentration, D=Dep	ee (A11)	=Reduced I  Polyva ML Thin I Loam; Loam; Deple Redo; Deple Redo;	Matrix, MS  RA 149B)  Dark Surfa  y Mucky N  y Gleyed I  ted Matrix  c Dark Sur	S=Masked  w Surface  ace (S9) (L  Mineral (F  Matrix (F2  c (F3)  rface (F6)  Surface (F6)	Sand Grades (S8) (LRI	ains.  R R,	²Location Indicators 2 cm   Coast 5 cm   Dark \$ Polyva Thin E Iron-M Piedm Mesic Red F Very \$	Prominent redox  n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils³: Muck (A10) (LRR K, L, MLRA 149B) r Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Dark Surface (S9) (LRR K, L) Pont Floodplain Soils (F19) (MLRA 149B) r Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	of hydrophytic vegeta		etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problemati	c.
Restrictive Type:	Layer (if observed)	:							
	ches):							Hydric Soi	I Present? Yes No
Remarks:	tarting at 4 ind								



wasb007f\_w\_NW



wasb007f\_w\_SE

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/SAM	
File #: wasb007	Date of visit(s): 09/06/2019	
Location: PLSS: <u>045N-003W-08</u>	Ecological Landsc	ape:
Lat: 46.386843 Long: -90.772257  County: Ashland Town/City/Village: Ashland town	Watershed: LS12, Marengo River	
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class:	
3243A Spear silt loam Field Verified:	Wetland Type(s): PFO hardwood	swamp
The series was not verified. Soils are silt loam.	Wetland Size: 0.20	Wetland Area Impacted 0.20
Hydrology: Recharge feature with seasonally saturated hydrology.	with graminoid-	Description(s): np dominated by black ash dominated understory nesic hardwood

SITE M	IAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '		In or adjacent to RED FLAG areas
5	N	N	List:
6	N	Υ	Supports or provides habitat for endangered, threatened or special concern species
7	IN		In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2		-	3 or more strata present (>10% cover)
3	N	N	
-	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP	11	IN .	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	INA	INA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NΙΛ	NIA	Densely rooted emergent or woody vegetation
ST	NA	NA	Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	IN	IN	Groundwater Processes
-			
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

144		
Wi Lis	idlife Habita st: direct ob	at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	Potential habitat for mammals, birds, reptiles, amphibians, invertebrates
Fis	sh and Aqua	atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)
WH1: Located in large block of forest

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Tilia americana			PFO	
Acer saccharum			PFO	Uncommon
Matteuccia struthiopteris			PFO	Uncommon
Fraxinus nigra			PFO	Abundant
Ulmus americana			PFO	Uncommon
Carex bromoides			PFO	Abundant
Athyrium angustum			PFO	Uncommon
Arisaema triphyllum			PFO	Uncommon
Carex radiata			PFO	Uncommon
Carex crinita			PFO	Uncommon
Carex intumescens			PFO	Uncommon
				<u> </u>
				<u> </u>

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

Moderate floristic integrity with primarily native species. The wetland is dominated by C. bromoides in the ground layer with Carex radiata, Carex crinita. Primarily black ash in the immediate area.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					<u> </u>

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Wetland is a small black ash depression within a mesic hardwood forest. Herbaceous layer contains near continuous graminoid cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		<b>✓</b>			
Human Use Values	<b>√</b>				
Wildlife Habitat			<b>√</b>		
Fish and Aquatic Life Habitat	<b>√</b>				
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage	<b>√</b>				
Water Quality Protection	<b>√</b>				
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	The wetland has an assemblage of native species across three strata with minimal non-native species cover.
Human Use Values	The feature is not visible or usable to the public but has aesthetic value.
Wildlife Habitat	The wetland provides habitat for a number of species which use continuous graminoid cover and tree and shrub strata.
Fish and Aquatic Life Habitat	No standing water for periods long enough to to sustain aquatic organisms.
Shoreline Protection	
Flood and Stormwater Storage	The wetland feature is densely vegetated, is a basin wetland.
Water Quality Protection	Densely vegetated to provide water filtration
Groundwater Processes	The wetland does not show groundwater indicators and primarily experiences recharge hydrology.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-06			
Applicant/Owner: Enbridge						
Investigator(s): SAM/MAL	Section, Township, Range: 045N-003W-08					
Landform (hillslope, terrace, etc.): Rise						
Subregion (LRR or MLRA): Northcentral Forests L						
Soil Map Unit Name: Spear silt loam, lake						
Are climatic / hydrologic conditions on the site typica	•	•				
Are Vegetation, Soil, or Hydrology _						
Are Vegetation, Soil, or Hydrology _						
			,			
SUMMARY OF FINDINGS – Attach site	map showing sampling po	int locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Yes		npled Area				
	NO <u> </u>	Vetland? Yes	No/			
		onal Wetland Site ID:				
Remarks: (Explain alternative procedures here or Upland is a mesic hardwood fores	in a separate report.)					
Opiana is a mesic narawood fores	st community.					
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)			
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil	Cracks (B6)			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)					
	Marl Deposits (B15) Dry-Season Water Table (C2)					
	_ Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)					
	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9					
1 — · · · · ·	Presence of Reduced Iron (C4)  Stunted or Stressed Plants (D1)					
	Recent Iron Reduction in Tilled S	Position (D2)				
	Thin Muck Surface (C7)	uitard (D3)				
	Other (Explain in Remarks)  Microtopographic Relief (D4)  FAC-Neutral Test (D5)					
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neulla	ii Test (D5)			
	/ Depth (inches):					
	/ Depth (inches):					
	/ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspe	ctions), if available:				
Remarks:						
No primary or secondary indicator	s of hydrology observed					

FACU FACU FACU FACU FACU FACU FACU FACU	Dominance Test worksheet:         Number of Dominant Species         That Are OBL, FACW, or FAC:       2.0       (A)         Total Number of Dominant         Species Across All Strata:       5.0       (B)         Percent of Dominant Species         That Are OBL, FACW, or FAC:       40.0       (A/B)         Prevalence Index worksheet:         Total % Cover of:       Multiply by:         OBL species       0.0       x 1 =       0.0         FACW species       15.0       x 2 =       30.0         FACW species       15.0       x 3 =       90.0         FACU species       105.0       x 4 =       420.0         UPL species       0.0       x 5 =       0.0         Column Totals:       150.0       (A)       540.0       (B)         Prevalence Index = B/A =       3.6         Hydrophytic Vegetation Indicators:         1 - Rapid Test for Hydrophytic Vegetation         2 - Dominance Test is >50%         3 - Prevalence Index is ≤3.0¹         4 - Morphological Adaptations¹ (Provide supporting data in Rema		
FACU FACU FACU FACU FACU FACU FACU FACU	That Are OBL, FACW, or FAC:		
FACU FACU FACU FACU FACU FACU FACU FACU	Total Number of Dominant Species Across All Strata: $5.0$ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: $40.0$ (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species $0.0$ $0.0$ $0.0$ $0.0$ FACW species $0.0$ $0.0$ $0.0$ FAC species $0.0$ $0.0$ $0.0$ FAC species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ $0.0$ FACU species $0.0$ FACU spec		
FACU	Species Across All Strata:		
FACU  //er  FAC FAC FAC	Percent of Dominant Species That Are OBL, FACW, or FAC: $40.0$ (A/B)  Prevalence Index worksheet:  Total % Cover of: Multiply by:  OBL species $0.0$ $\times 1 = 0.0$ FACW species $15.0$ $\times 2 = 30.0$ FAC species $30.0$ $\times 3 = 90.0$ FACU species $105.0$ $\times 4 = 420.0$ UPL species $0.0$ $\times 5 = 0.0$ Column Totals: $150.0$ (A) $540.0$ (B)  Prevalence Index $= B/A = 3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation  2 - Dominance Test is $>50\%$ 3 - Prevalence Index is $\le 3.0^1$ 4 - Morphological Adaptations (Provide supporting)		
/er  FAC FAC	That Are OBL, FACW, or FAC: $40.0$ (A/B)  Prevalence Index worksheet:		
/er  FAC FAC	Total % Cover of: Multiply by:  OBL species $0.0 \times 1 = 0.0$ FACW species $15.0 \times 2 = 30.0$ FAC species $30.0 \times 3 = 90.0$ FACU species $105.0 \times 4 = 420.0$ UPL species $0.0 \times 5 = 0.0$ Column Totals: $150.0 \times 6 = 3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting)		
/er  FAC FAC	Total % Cover of: Multiply by:  OBL species $0.0 \times 1 = 0.0$ FACW species $15.0 \times 2 = 30.0$ FAC species $30.0 \times 3 = 90.0$ FACU species $105.0 \times 4 = 420.0$ UPL species $0.0 \times 5 = 0.0$ Column Totals: $150.0 \times 6 = 3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting)		
/er  FAC FAC	OBL species $0.0 \times 1 = 0.0$ FACW species $15.0 \times 2 = 30.0$ FAC species $30.0 \times 3 = 90.0$ FACU species $105.0 \times 4 = 420.0$ UPL species $0.0 \times 5 = 0.0$ Column Totals: $150.0 \times 6 = 3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations (Provide supporting)		
FAC_FAC	FACW species $15.0 \times 2 = 30.0$ FAC species $30.0 \times 3 = 90.0$ FACU species $105.0 \times 4 = 420.0$ UPL species $0.0 \times 5 = 0.0$ Column Totals: $150.0 \times 5 = 0.0$ Prevalence Index $0.0 \times 5 = 0.0$ Hydrophytic Vegetation Indicators: $0.0 \times 5 = 0.0$ Hydrophytic Vegetation Indicators: $0.0 \times 5 = 0.0$ Frevalence Index $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ Frevalence Index $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ Frevalence Index $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ Frevalence Index $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ Frevalence Index is $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ Frevalence Index is $0.0 \times 5 = 0.0$ $0.0 \times 5 = 0.0$ FACU species $0.0 \times 5 = 0.0$ FACU		
rer FAC FAC	FAC species $30.0 \times 3 = 90.0$ FACU species $105.0 \times 4 = 420.0$ UPL species $0.0 \times 5 = 0.0$ Column Totals: $150.0 \times 6 = 3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations (Provide supporting)		
rer FAC FAC	FACU species $105.0$ $\times 4 = 420.0$ UPL species $0.0$ $\times 5 = 0.0$ Column Totals: $150.0$ (A) $540.0$ (B)  Prevalence Index = B/A = $3.6$ Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations (Provide supporting)		
/er FAC FAC	Column Totals:		
rer FAC FAC	Prevalence Index = B/A = 3.6  Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting		
/er FAC FAC	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting		
FAC FAC	Hydrophytic Vegetation Indicators:  1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting		
rer FAC FAC	<ul> <li>1 - Rapid Test for Hydrophytic Vegetation</li> <li>2 - Dominance Test is &gt;50%</li> <li>3 - Prevalence Index is ≤3.0¹</li> <li>4 - Morphological Adaptations¹ (Provide supporting)</li> </ul>		
FAC FAC	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting		
FAC FAC	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting		
FAC	4 - Morphological Adaptations <sup>1</sup> (Provide supporting		
FAC	data in Remarks or on a congrete cheet)		
$\vdash \land \land \land \land \land$	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
	<sup>1</sup> Indicators of hydric soil and wetland hydrology must		
FACU	be present, unless disturbed or problematic.		
<u>FACU</u>	Definitions of Vegetation Strata:		
	Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
	at breast height (DBH), regardless of height.		
	Sapling/shrub – Woody plants less than 3 in. DBH		
	and greater than or equal to 3.28 ft (1 m) tall.		
	Herb – All herbaceous (non-woody) plants, regardless		
	of size, and woody plants less than 3.28 ft tall.		
	Woody vines – All woody vines greater than 3.28 ft in height.		
/er	noight.		
<u>FACU</u>			
	Hydrophytic		
	Vegetation   Present?   Yes No✓_		
/er	100 <u> </u>		
/	FACU		

SOIL Sampling Point: wasb007\_u

	cription: (Describe	to the dep				or confirm	the absence of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>k Features</u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks		
0–8	10YR 3/3	100	Color (molot)	70	Турс		SIL		
		100					SIL		
0 10	0111	100							
		<u> </u>							
	-								
		·							
		·							
	oncentration, D=Dep	letion, RM:	Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.		
Hydric Soil Histosol			Polyvalue Belov	v Surface	(CQ) (I DE	р	Indicators for Problematic Hydric Soils <sup>3</sup> : 2 cm Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)		MLRA 149B)		(30) (LKI	Λ,	Coast Prairie Redox (A16) (LRR K, L, R)		
	istic (A3)		Thin Dark Surfa						
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M Loamy Gleyed M			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)		
Depleted	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12)  Mucky Mineral (S1)		Redox Dark Sur Depleted Dark S		7)		<pre> Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)</pre>		
	Gleyed Matrix (S4)		Redox Depressi		')		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)						Red Parent Material (F21)		
	I Matrix (S6) rface (S7) (LRR R, N	/ILRA 149E	3)				Very Shallow Dark Surface (TF12)     Other (Explain in Remarks)		
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Type:	Layer (if observed):								
	ches):						Hydric Soil Present? Yes No✓		
Remarks:	Ciles)						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	resent starting	g at 8 ir	nches.						



wasb007\_u\_E



wasb007\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-09-25		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section. Townshir	o. Range: 045N-003W-	08		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests La					
Soil Map Unit Name: Cornucopia silt loam,					
Are climatic / hydrologic conditions on the site typical					
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes ✓ No		
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS - Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes✓	No Is the Sam	pled Area			
	No within a W	etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes✓		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in The wetland is a fresh wet meadow	surrounded by upland	forest.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soi	l Cracks (B6)		
Surface Water (A1)	_ Water-Stained Leaves (B9)	Drainage Pa	Drainage Patterns (B10)		
High Water Table (A2)	_ Aquatic Fauna (B13)	Moss Trim L	_ines (B16)		
	_ Marl Deposits (B15)		✓ Dry-Season Water Table (C2)		
	_ Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imager				
	Presence of Reduced Iron (C4)		Stressed Plants (D1)		
	<ul><li>Recent Iron Reduction in Tilled So</li><li>Thin Muck Surface (C7)</li></ul>	oils (C6) <u>/</u> Geomorphic Shallow Aqu			
	Other (Explain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Kemarks)	Microtopogr			
Field Observations:		<u>+</u> 1710 110 and			
Surface Water Present? Yes No ✓	Depth (inches):				
	Depth (inches): 14				
	Depth (inches): 0	Wetland Hydrology Prese	nt? Yes <u></u> √ No		
(includes capillary fringe)		Canal Yang Jahlan			
Describe Recorded Data (stream gauge, monitoring	weii, aeriai pnotos, previous inspec	tions), if available:			
Remarks:					
The hydrologic regime is seasonall	•	· · · · · · · · · · · · · · · · · · ·	9 9		
linear and follows an area of relative	ely low topography, and	is associated with	stream sasc026e.		

### **VEGETATION** – Use scientific names of plants.

<b>EGETATION</b> – Use scientific names of plants.		Sampling Point: <u>wasc034e_w</u>		
Tree Stratum (Plot size: 30' )	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co		OBL species $72.0$ $x = 72.0$
Sapling/Shrub Stratum (Plot size: 15')				FACW species 22.0 x 2 = 44.0
1				FAC species1.0 x 3 =3.0
2.			·	FACU species0.0 x 4 =0.0
3.				UPL species 0.0 x 5 = 0.0
4.				Column Totals: <u>95.0</u> (A) <u>119.0</u> (B)
5				Prevalence Index = B/A =1.3
6				Hydrophytic Vegetation Indicators:
7				
		= Total Co	ver	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1. Scirpus cyperinus	30.0	Υ	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Scirpus hattorianus		Υ	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Impatiens capensis</u>		Υ	FACW	
4. <u>Persicaria sagittata</u>		N	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Carex retrorsa	5.0	N	OBL	Definitions of Vegetation Strata:
6. Carex crinita	5.0	N	OBL	
7. Glyceria striata		N	OBL	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Typha X glauca</u>		N	OBL	Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Onoclea sensibilis</u>	2.0	N	FACW	and greater than or equal to 3.28 ft (1 m) tall.
10. Equisetum arvense	1.0	N	FAC	Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	95.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1.				
2.				
3.				Hydrophytic
4.			· <del></del>	Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate				

The wetland is dominated by Scirpus spp. and Impatiens capensis, and is densely vegetated throughout. A small shrub patch of Salix petiolaris is present in the wetland, but is not significant enough to be considered a shrub component.

SOIL Sampling Point: wasc034e\_w

Profile Desc	cription: (Describe t	o the dep	th needed to docun	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix	0/		x Features		12	T	Devento
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	Texture	Remarks
0-20	7.5YR 2.5/2	100					_MMI	
		-						
		-		-		-		
1							2	
Hydric Soil	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.		PL=Pore Lining, M=Matrix.  or Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	v Surface	(S8) (I RI	2 R		ck (A10) (LRR K, L, MLRA 149B)
·	oipedon (A2)		MLRA 149B)		(00) (EIII	,		airie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3)		Thin Dark Surfa				5 cm Mud	cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		✓ Loamy Mucky N  ———————————————————————————————————			, L)		face (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	(//11)	Loamy Gleyed I Depleted Matrix		2)			e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
	ark Surface (A12)	(Д11)	Redox Dark Sui					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S					t Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depress	ions (F8)				oodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)							ent Material (F21)
	l Matrix (S6) rface (S7) (LRR R, M	I D A 140B	2)					allow Dark Surface (TF12) xplain in Remarks)
Daik Su	nace (57) (LKK K, W	LNA 1430	")				Other (L)	xpiaiii iii Neiriaiks)
<sup>3</sup> Indicators o	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Pr	resent? Yes No
Remarks:								
		ndy in t	he lower part	of the	profile	, but stil	ll has a proi	minent organic
compone	ent.							



wasc034e\_w\_N



wasc034e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/JSW		
File #:	Date of visit(s):		
wasc034	09/25/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>045N-003W-08</u>	Superior Coastal Plain		
	Superior Coastal Flair		
Lat: <u>46.388907</u> Long: <u>-90.766706</u>	Watershed:		
•	LS12 Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
481E, Cornucopia silt loam, 15 to 45 percent slopes	Wetland Type(s):		
	PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. The soils consist of a loamy	Wetland Size:	Wetland Area Impacted	
modified mucky mineral texture.	0.21	0.21	
Thoumbu mucky minoral texture.	Vegetation:		
	Plant Community D	escription(s).	
Hydrology:	The wetland is densely vegetated and dominated by		
Seasonally saturated basin with recharge hydrology.	opportunistic and disturbance tolerant graminoids.		
Feature is roughly linear and flanked by upland to the	Dominant species include jewelweed (impatiens		
east and west, and has a small swale running through it	capensis), arrow-leaved tearthumb (Persicaria sagittata)		
(sasc026e).	with a small shrub patch of Salix petiolaris.		
(00000200).		1	

SITE MAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N N	Occurs in a Joint Venture priority township
6			Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Ϋ́	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N.I	N.I	Provides substantial storage of storm and floodwater based on previous section
	N	N	Basin wetland or constricted outlet
2	Y	Y	
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	<u></u>		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	Y	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	IN	I IN	Troduction Within a Wolfflood protocoloff area

Wild	life Habita	t and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	er, etc.	servation, tracks, scat, other sign, type or habitat. hesting, inigratory,
Observed F	Potential	Species/Habitat/Comments
Observed 1	Y	The feature may support songbirds, mammals (deer, squirrels), amphibians, and reptiles.
Field		tis Life Hebitet and Charles Observations
		tic Life Habitat and Species Observations servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed F	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

WH-10, FA-2, 4: Supports standing water periodically, likely consistently early in the growing season or during periods of high rainfall. WQ-3: Small swale runs through the feature.

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

Traine Community intogrey (Circle)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%√		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4 🗸	S3 🗌	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Abundant
Scirpus hattorianus			PEM	Common
Impatiens capensis			PEM	Common
Persicaria sagittata			PEM	Uncommon
Carex retrorsa			PEM	Uncommon
Carex crinita			PEM	Uncommon
Glyceria striata			PEM	Uncommon
Typha X glauca			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon
Equisetum arvense			PEM	Uncommon

### **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has dense herbaceous cover and low overall floristic integrity and diversity. Total herb coverage at 95%.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
	Х		М	С	Agriculture – pasture
	Х		L	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is impacted by a nearby roadway and has historically been impacted by herbaceous and and tree layer
removal. There is also minimal invasive cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

### **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and impacted by invasive species cover.
Human Use Values	This wetland is not visible from the adjacent roadway and not used for recreation or research.
Wildlife Habitat	Proximity to roadway and invasive cover.
Fish and Aquatic Life Habitat	The wetland is seasonally saturated and associated with a swale which occasionally supports standing/running water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is within a slight basin and is densely vegetated.
Water Quality Protection	The feature is densely vegetated and associated with a swale.
Groundwater Processes	The feature does not show signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Cou	inty: Ashland	Sampling Date: 2019-09-25			
Applicant/Owner: Enbridge						
<u> </u>		Section, Township, Range: 045N-003W-08				
Landform (hillslope, terrace, etc.): Shoulder						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Cornucopia silt loar						
Are climatic / hydrologic conditions on the site typi	•	•				
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach sit	e map showing samp	ling point locations, transect	ts, important features, etc.			
Hydrophytic Vegetation Present? Yes	No <u></u> ✓ Is	s the Sampled Area				
Hydric Soil Present? Yes	No <u></u> ✓ w	vithin a Wetland? Yes	No <u>√</u>			
		yes, optional Wetland Site ID:				
Remarks: (Explain alternative procedures here of The upland is located on the top	or in a separate report.)	ove the wetland				
The upland is located on the top	oi a sinali slope abo	ove the wettand.				
HYDROLOGY						
Wetland Hydrology Indicators:			cators (minimum of two required)			
Primary Indicators (minimum of one is required;		<del></del>				
Surface Water (A1)	Water-Stained Leaves (					
High Water Table (A2)	Aquatic Fauna (B13)		Lines (B16)			
Saturation (A3) Water Marks (B1)	<ul><li>Marl Deposits (B15)</li><li>Hydrogen Sulfide Odor</li></ul>	-	n Water Table (C2) urrows (C8)			
Sediment Deposits (B2)	Oxidized Rhizospheres		Visible on Aerial Imagery (C9)			
Orift Deposits (B3)	Presence of Reduced In		Stressed Plants (D1)			
Algal Mat or Crust (B4)	Recent Iron Reduction is	• •	ic Position (D2)			
Iron Deposits (B5)	Thin Muck Surface (C7)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remai		graphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	_ ` ` .	· ·	ral Test (D5)			
Field Observations:						
Surface Water Present? Yes No _	✓ Depth (inches):					
Water Table Present? Yes No _	✓ Depth (inches):					
	✓ Depth (inches):	Wetland Hydrology Pres	ent? Yes No <u>√</u>			
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks:						
No indicators of wetland hydrolog	av were observed.					
	,,					

**VEGETATION** – Use scientific names of plants.

1. Betula papyrifera 20.0. Y FACU 2. FACW 1. Archive Delications (A) 1. Transitions of Vegetation (Explain) 2. Freshmus (Plot size: 5') 1. Phileum pratersse 30.0. Y FACU 4. Achilles millefolium 10.0. N FACU 4. Achilles millefolium 10.0. N FACU 5. Source from the separate sheet; 11.	Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
2. Fraxinus pennsylvanica					Number of Dominant Species
3.					
## Percent of Dominant Species That Are OBL, FACW, or FAC:    25.0					
5.					
Prevalence Index worksheet:   Total % Cover of:   Multiply by:   OBL species   O.0.   x1 =   O.0   Sapling/Shrub Stratum (Plot size:   15'   )   1. Tilia americana   10.0.   Y   FACU   FACW species   0.0.   x2 =   10.0   FACW species   5.0.   x3 =   30.0   FACW species   5.0.   x4 =   460.0   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   Fevalence Index = B/A =   3.8   VIPL species   10.0.   x3 =   30.0   YEACW   FACW species   10.0.   x4 =   460.0   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   FACW species   10.0.   x4 =   460.0   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   FACW species   10.0.   x4 =   460.0   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   VIPL species   0.0.   x5 =   0.0   Column Totals:   130.0   (A)   500.0   (B)   VIPL species   0.0.   x5 =   0.0   VIPL species   0.0.					
Total % Cover of:					
25.0   = Total Cover					
Sapiling/Shrub Stratum (Plot size:					
1. Tilia americana	Sanling/Shruh Stratum (Plot size: 15' )	20.0	- 10tai 00t	701	
2		10.0	Υ	FACII	
Section   Sect					FACU species <u>115.0</u> x 4 = <u>460.0</u>
4					-
Prevalence Index = B/A =3.8					Column Totals: <u>130.0</u> (A) <u>500.0</u> (B)
Hydrophytic Vegetation Indicators:   7.					Prevalence Index = B/A =3.8
7					Hydrophytic Vegetation Indicators:
Left Stratum (Plot size:5')   1. Phleum pratense   30.0					
Herb Stratum (Plot size: 5' )   1. Phleum pratense   30.0 Y FACU   2. Poa pratensis   30.0 Y FACU   3. Solidago canadensis   10.0 N FACU   4. Achillea millefolium   10.0 N FACU   5.   5.   5.   5.   5.   5.   5.   5	1.		- Total Cov	/or	
1. Phleum pratense 30.0 Y FACU 2. Poa pratensis 30.0 Y FACU 3. Solidago canadensis 10.0 N FACU 4. Achillea millefolium 10.0 N FACU 5. Definitions of Vegetation Strata: 6. Definitions of Vegetation Strata: 7. Sapling/shrub – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 8. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 10. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height.  Woody Vine Stratum (Plot size: 30' ) 1. Suppose the province supporting data in Remarks or on a separate sheet)  4. Woody Vine Stratum (Plot size: 30' )  8. Suppose the province supporting data in Remarks or on a separate sheet.)	Horb Stratum (Plot size: 5')	20.0	= Total Cov	/EI	3 - Prevalence Index is ≤3.0¹
2. Poa pratensis 30.0 Y FACU 3. Solidago canadensis 4. Achillea millefolium 10.0 N FACU 5.		30 O	<b>Y</b>	FΔCII	4 - Morphological Adaptations (Provide supporting
3. Solidago canadensis 4. Achillea millefolium 5. Definitions of Vegetation Strata: 6. Definitions of Vegetation Strata: 7. Sapling/shrub – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 8. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. 9. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30' ) 1. Woody Vine Stratum (Plot size: 30' ) 2. Hydrophytic Vegetation Present? Yes Nov  Remarks: (Include photo numbers here or on a separate sheet.)					·
4. Achillea millefolium  10.0 N FACU be present, unless disturbed or problematic.  Definitions of Vegetation Strata:  Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  Woody vines – All woody vines greater than 3.28 ft in height.  Woody Vine Stratum (Plot size: 30')  1	-				
Definitions of Vegetation Strata:  6.	_				
6					
7					Definitions of Vegetation Strata:
8					
9					
10					
of size, and woody plants less than 3.28 ft tall.  Woody Vines – All woody vines greater than 3.28 ft in height.  Woody Vine Stratum (Plot size: 30' )  1					
12					
Noody Vine Stratum (Plot size: 30' )					Woody vines – All woody vines greater than 3.28 ft in
Woody Vine Stratum         (Plot size:	12.		Total Co.		, ,
1	Woody Vine Stratum (Plot aize: 30')	00.0	= 10(a) Co	/ei	
2					
3					
4					
Remarks: (Include photo numbers here or on a separate sheet.)	4				Present? Yes No✓
	Remarks: (Include photo numbers here or on a separate		= 10tal Co\	/er	
			weedy	area ar	nd a young woodland.

Sampling Point: wasc034\_u

SOIL Sampling Point: wasc034\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix			x Feature		. 2	<b>.</b>	B	
(inches) 0-4	7.5YR 4/4	100	Color (moist)	%	Type'	Loc <sup>2</sup>	LVFS	Remarks	
	7.51R 4/4 7.5YR 4/3						SL		
4-20	7.51K 4/5	100					SL		
		<del></del> .							
				· -					
				· -					
				· ·					
<sup>1</sup> Type: C=C	oncentration, D=Depl	letion RM-	Reduced Matrix MS	S-Masker	Sand Gr	ains	<sup>2</sup> l ocation: Pl	=Pore Lining, M=Matrix.	
Hydric Soil		iotion, rtivi	readoca Matrix, Me	)—IVIdoRoc	TOURIU OR	AII 10.		Problematic Hydric Soils <sup>3</sup> :	
Histosol			Polyvalue Belov		(S8) ( <b>LR</b> F	RR,		(A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RR R. MI	_RA 149B)		te Redox (A16) (LRR K, L, R)  Peat or Peat (S3) (LRR K, L, R)	
Hydroge	en Sulfide (A4)	•	Loamy Mucky N	/lineral (F	1) ( <b>LRR K</b>		Dark Surface (S7) (LRR K, L)		
	d Layers (A5) d Below Dark Surface	a (Δ11)	Loamy Gleyed   Depleted Matrix		2)			selow Surface (S8) (LRR K, L) surface (S9) (LRR K, L)	
-	ark Surface (A12)	F(ATT)	Redox Dark Su					nese Masses (F12) (LRR K, L, R)	
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F			Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
Sandy Redox (S5) Stripped Matrix (S6)			Very Shallow Dark Surface (TF12)						
	urface (S7) (LRR R, N	ILRA 149B	)					ain in Remarks)	
<sup>3</sup> Indicators o	of hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.		
Restrictive	Layer (if observed):								
Type:			<u> </u>				Uhadaia Gail Basa	and Van Na (	
	ches):						Hydric Soil Pres	ent? Yes No✓_	
Remarks:	c soil indicator	s were	observed						
i to nyan		o word	obcol vod.						



wasc034\_u\_N



wasc034\_u\_S

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-09-25
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	, Range: 045N-003W-	08
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3			
Soil Map Unit Name: Cornucopia silt loam, 15 to 4			
Are climatic / hydrologic conditions on the site typical for this tin			
	•		
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology natu	rally problematic? (	If needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling poin	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present?       Yes _ ✓ No _         Hydric Soil Present?       Yes _ ✓ No _         Wetland Hydrology Present?       Yes _ ✓ No _	within a We	etland? Yes <u>√</u>	No
Remarks: (Explain alternative procedures here or in a separa	ate report.)		
The wetland is a small fresh wet meadow of reed canary grass.	located iii a roads	side ditori and domi	nated by a trick mat
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface Soi	
	Stained Leaves (B9)	Drainage Pa	
	Fauna (B13)	Moss Trim L	
	eposits (B15)		Water Table (C2)
	en Sulfide Odor (C1) ed Rhizospheres on Living F	Crayfish Bu	/isible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		Stressed Plants (D1)
	Iron Reduction in Tilled So		
	uck Surface (C7)	Shallow Aqu	
	Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutra	
Field Observations:			,
Surface Water Present? Yes No _ ✓ Depth	(inches):		
Water Table Present? Yes No _ ✓ Depth	(inches):		
Saturation Present? Yes No ✓ Depth	(inches):	Wetland Hydrology Prese	nt? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aeri	ial photos, previous inspect	ions), if available:	
December (cool and Data (choam gauge, morntoning won, acr	ai priotoo, provious irisposi	ionoj, ii avaliabio.	
Remarks: The hydrologic regime is seasonally satur	rated with rechard	ne hydrology. The w	vetland receives
stormwater runoff from the adjacent pave			

# **VEGETATION** – Use scientific names of plants.

1	)	Species?		Dominance Test worksheet:  Number of Dominant Species That Are OBL, FACW, or FAC: 1.0 (A)  Total Number of Dominant Species Across All Strata: 1.0 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:
1		= Total Co		That Are OBL, FACW, or FAC: 1.0 (A)  Total Number of Dominant Species Across All Strata: 1.0 (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:
3	<u> </u>	= Total Co		Species Across All Strata:
4		= Total Co	· ——	Species Across All Strata:
5		= Total Co		That Are OBL, FACW, or FAC: 100.0 (A/B)  Prevalence Index worksheet:
6	 )	= Total Co		Prevalence Index worksheet:
7	<u> </u>	= Total Co		Total % Cover of: Multiply by:
	)	= Total Co		
Sapling/Shrub Stratum         (Plot size:			ver	OBL species10.0 x 1 =10.0
1				
2.				FACW species 92.0 x 2 = 184.0
3.	_			FACULTURE
4				FACU species 0.0 x 4 = 0.0 UPL species 2.0 x 5 = 10.0
				Column Totals: 104.0 (A) 204.0 (B)
5				
				Prevalence Index = B/A =2.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	)	= Total Co	ver	∠ 2 - Dominance Test is >50%     ∠ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5' )	_			4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Phalaris arundinacea 90.			FACW	data in Remarks or on a separate sheet)
2. Juncus effusus 5.0		<u>N</u>	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. Glyceria striata 5.1		_N_	OBL	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. <u>Agrostis gigantea</u> 2.1			FACW	be present, unless disturbed or problematic.
5. <u>Daucus carota</u> 2.0	)	N	<u>UPL</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
	.0	= Total Co	ver	
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic
4			·	Vegetation   Present?
	)	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate sheet.) The wetland is dominated by Phalaris arund				w floristic diversity.

SOIL Sampling Point: wasc035e\_w

Profile Desc	cription: (Describe t	o the dept				or confirm	the absence	of indicators.)
Depth (in all and	Matrix			x Features		Loc <sup>2</sup>	Tandona	Demonde
(inches)	Color (moist)	%	Color (moist)	%	Type'	LOC	<u>Texture</u>	Remarks
		<del></del>						
	-							
				-				
	oncentration, D=Depl	etion, RM=	Reduced Matrix, Mag	S=Masked	Sand Gra	ains.	<sup>2</sup> Location:	: PL=Pore Lining, M=Matrix.
Hydric Soil								for Problematic Hydric Soils <sup>3</sup> :
Histosol		-	Polyvalue Belo		(S8) ( <b>LRF</b>	RR,		fuck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B					Prairie Redox (A16) (LRR K, L, R)
	istic (A3)	-	Thin Dark Surfa					flucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky I Loamy Gleyed			, ∟)		urface (S7) ( <b>LRR K, L</b> ) lue Below Surface (S8) ( <b>LRR K, L</b> )
	d Layers (A5) d Below Dark Surface	· (Λ11)	Loarny Gleyed Depleted Matrix		)			ark Surface (S9) (LRR K, L)
	ark Surface (A12)	(A11) _	Redox Dark Su					anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)	-	Depleted Dark		7)			ont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)	-	Redox Depress		' )			Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	-		( )				arent Material (F21)
	d Matrix (S6)							hallow Dark Surface (TF12)
	ırface (S7) ( <b>LRR R, M</b>	LRA 149B	)					Explain in Remarks)
	of hydrophytic vegetati	on and wet	land hydrology mus	st be prese	nt, unless	disturbed	or problematic	:.
Restrictive	Layer (if observed):							
Type:								
Depth (in	iches):						Hydric Soil	Present? Yes No
Remarks:			<del></del>					
	ıld not ha sam	الله لموام	e to the locat	ion with	hin a r	ahisher	ditch an	d are assumed to be hydric
		•						a are assumed to be rigario
based of	n the hydrology	/ and do	Jillilance of	пушорі	nyuc v	egetatic	JII.	



wasc035e\_w\_E



wasc035e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/JSW		
File #: wasc035	Date of visit(s): 09/25/2019		
Location: PLSS: 045N-003W-08	Ecological Landsca Superior Coastal Plain	ape:	
Lat: <u>46.389625</u> Long: <u>-90.764634</u>	Watershed: LS12, Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
481E, 713B,Cornucopia silt loam, 15 to 45 percent slopes, Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes	Wetland Type(s): PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. The soils were not sampled due to their location in a roadside ditch.	Wetland Size: 0.01	Wetland Area Impacted 0.01	
	Vegetation: Plant Community D	Description(s):	
Hydrology: Seasonally saturated linear basin/ditch with recharge hydrology. Feature receives water from the adjacent roadway. The wetland is associated with a culvert and ditch.	The wetland is d	lensely vegetated and ed canary grass.	

 SITE MAP	

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
F			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
0			
8	N N	N	Part of a large habitat block that supports area sensitive species
9	N N	Y	Ephemeral pond with water present > 45 days
10	<u>N</u>	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	<u>N</u>	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	_		Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N!	N.I	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ		.,	Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	<u> </u>	Y	Vegetated wetland associated with a lake or stream
5	<u>т</u> Ү	Y	Dense, persistent vegetation
6			Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
H	N N	N	
7	N_	N	Stormwater or surface water from agricultural land is major hydrology source
8	N_	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	-		•

\A/:	lališa Ilabisa	st and Charles Observation (including approhibitions and ventiles)
		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Y	s which occupy disturbed, isolated, and linear habitat including songbirds, amphibians, smal
Fis	h and Aqua	atic Life Habitat and Species Observations
Lis	t: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
0.000.700	Y	Habitat is present for species which occupy fragmented and disturbed areas.
		, , , , , , , , , , , , , , , , , , , ,

Section 1 Comments (Refer to Section 1 numbers)

HU-3: The feature is visible from the adjacent roadway. WH-10, FA-2, 4: Supports standing water periodically, likely consistently early in the growing season or during periods of high rainfall.

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Abundant
Juncus effusus			PEM	Uncommon
Glyceria striata			PEM	Uncommon
Agrostis gigantea			PEM	Uncommon
Daucus carota			PEM	Uncommon
_				

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has dense herbaceous cover and low overall floristic integrity and diversity due to near continuous reed canary grass cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
•					Filling, berms (non-impounding)		
	Х				Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
	Х		L	С	Agriculture – hay		
					Agriculture – pasture		
	Х		Н	С	Roads or railroad		
	Х		L	С	Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
V				0	Removal of herbaceous stratum – mowing,		
X			Н	С	grading, earthworms, etc.		
					Removal of tree or shrub strata – logging,		
					unprescribed fire		
					Human trails – unpaved		
					Human trails – paved		
	Χ		L	С	Removal of large woody debris		
X	Χ		Н	С	Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is impacted by a nearby roadway and has historically been impacted by herbaceous and and tree layer
removal. There is also considerable invasive species cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>✓</b>			
Shoreline Protection					<b>√</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and impacted by high invasive species cover.
Human Use Values	This wetland is visible from the adjacent roadway and not used for recreation or research.
Wildlife Habitat	Proximity to roadway and high invasive cover.
Fish and Aquatic Life Habitat	The wetland is seasonally saturated and associated with a culvert and ditch which support standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is within a slight basin, receives runoff from a roadway, and is very densely vegetated.
Water Quality Protection	The feature is densely vegetated and associated with culvert and ditch which receives polluted runoff.
Groundwater Processes	The feature does not show signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sam	pling Date: 2019-09-25
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW				· -
Landform (hillslope, terrace, etc.): Talf				
Subregion (LRR or MLRA): Northcentral Forests La				
Soil Map Unit Name: Kellogg-Allendale-Ashv				
	•			
Are climatic / hydrologic conditions on the site typical				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site i	map showing sampling	ງ point locations, t	transects, imp	portant features, etc.
Hydrophytic Vegetation Present? Yes	No _✓ Is the	e Sampled Area		
	No <u>√</u> withi	n a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes		s, optional Wetland Site	ID:	
Remarks: (Explain alternative procedures here or in The upland sample point is located	a separate report.)	inland forcet an	d is filled wi	th advantageous
herbaceous species.	on the edge of an o	pianu ioresi, an	a is illea wi	iii auvaniayeous
Tierbaceous species.				
HYDROLOGY				
Wetland Hydrology Indicators:	L Hall a LN		-	minimum of two required)
Primary Indicators (minimum of one is required; che				
	Water-Stained Leaves (B9)		Drainage Patterns	
	_ Aquatic Fauna (B13) _ Marl Deposits (B15)		Moss Trim Lines (I Dry-Season Water	
	_ Warr Deposits (B15) _ Hydrogen Sulfide Odor (C1)		Crayfish Burrows (	
	Oxidized Rhizospheres on L			on Aerial Imagery (C9)
	Presence of Reduced Iron (		Stunted or Stresse	
	Recent Iron Reduction in Til		Geomorphic Positi	
	Thin Muck Surface (C7)		Shallow Aquitard (	
	Other (Explain in Remarks)		Microtopographic I	
Sparsely Vegetated Concave Surface (B8)	- , ,		FAC-Neutral Test	
Field Observations:			-	
Surface Water Present? Yes No✓	Depth (inches):			
Water Table Present? Yes No✓	Depth (inches):			
	Depth (inches):	Wetland Hydro	logy Present? `	Yes No <u>√</u>
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous i	nspections), if available		
garage, and g	. , , , ,	-,		
Remarks: No indicators of wetland hydrology	were observed			
Two maleuters of wetland mydrology	word observed.			
The state of the s				

Tree Stratum (Plot size:30')	Absolute		t Indicator Status	Dominance Test worksheet:
1. Pinus strobus			FACU	Number of Dominant Species
Populus tremuloides			FAC	That Are OBL, FACW, or FAC:4 (A)
•			FACU	Total Number of Dominant Species Across All Strata:  9 (B)
				\
<ul><li>4. Fraxinus pennsylvanica</li><li>5. Ulmus americana</li></ul>				Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0 1 0 1 0 1 0 1 1 0 1	65.0	= Total Co	over	OBL species 0 x 1 = 0  FACW species 30 x 2 = 60
Sapling/Shrub Stratum (Plot size: 15')	00.0	V	E4011	FAC species 30 x3 = 90
1. <u>Tilia americana</u>				FACU species 122 x 4 = 488
2. Populus tremuloides			FAC	UPL species <u>5</u> x 5 = <u>25</u>
3. Acer saccharum		_N_	FACU	Column Totals: <u>187</u> (A) <u>663</u> (B)
4. <u>Cornus alba</u>		_N_	FACW	Prevalence Index = B/A = 3.55
5. <u>Fraxinus pennsylvanica</u>			FACW	
6. <u>Ulmus americana</u>	5.0	N	<u>FACW</u>	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	50	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')	20.0	V	EACH	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. <u>Fragaria virginiana</u>			<u>FACU</u> UPL	data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. Bromus inermis				robicinatio riyuropriytic vegetation (Explain)
3. <u>Prunus virginiana</u>		_N_	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Rubus idaeus		_N_	FAC	be present, unless disturbed or problematic.
5. <u>Maianthemum canadense</u>			<u>FACU</u>	Definitions of Vegetation Strata:
6				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			· ——	Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	over	height.
Woody Vine Stratum (Plot size:30')		_ rotar oc	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Parthenocissus quinquefolia	20.0	Υ	FACU	
2. Clematis virginiana				
3				Hydraubydia
4				Hydrophytic Vegetation
7.		= Total Co		Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate s		_ 10tal 00	7001	
The upland is located on the border of		upland	d forest.	

Sampling Point: wasc035\_u

SOIL Sampling Point: wasc035\_u

Profile Descri	ption: (Describe to	the depth	needed to docum	ent the ir	ndicator	or confirm	the absence o	f indicators.)
Depth _	Matrix			(Features	4		_	
(inches)	Color (moist)		Color (moist)		Type'	Loc <sup>2</sup>	Texture -	Remarks
¹Type: C=Con	centration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked	Sand Gra	nins.		PL=Pore Lining, M=Matrix. or Problematic Hydric Soils <sup>3</sup> :
Histosol (A Histic Epip Black Histi Hydrogen Stratified L Depleted E Thick Dark Sandy Mu Sandy Gle Sandy Rec Stripped M Dark Surfa	edon (A2) c (A3) Sulfide (A4) ayers (A5) Below Dark Surface s Surface (A12) cky Mineral (S1) yed Matrix (S4) dox (S5) latrix (S6) ace (S7) (LRR R, Milydrophytic vegetation yer (if observed):	LRA 149B) on and wetla	Polyvalue Below MLRA 149B) Thin Dark Surfar Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) ( <b>L</b> lineral (F1 Matrix (F2) (F3) face (F6) Surface (F7 ons (F8)	RR R, ML ) (LRR K,	RA 149B) L)	2 cm Mu Coast P 5 cm Mu Dark Su Polyvalu Thin Da Iron-Mai Piedmoi Mesic S Red Par Very Sh Other (E	uck (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) uface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) nganese Masses (F12) (LRR K, L, R) nt Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) tent Material (F21) allow Dark Surface (TF12) explain in Remarks)
Remarks: Soils could	d not be samp based on the	oled due					uch, soils	are assumed to be



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wasc035\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: <u>2019-09-25</u>
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW			· · · · · · · · · · · · · · · · · · ·
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.			
Soil Map Unit Name: Cornucopia silt loam, 15 to			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology signature			
Are Vegetation, Soil, or Hydrology na		(If needed, explain any answ	•
SUMMARY OF FINDINGS – Attach site map s	howing sampling poi	nt locations, transect	ts, important features, etc.
Hydrophytic Vegetation Present? Yes _ ✓ No	within a M	pled Area etland? Yes <u>√</u>	′ No
Hydric Soil Present? Yes _ ✓ No Wetland Hydrology Present? Yes _ ✓ No	' <del></del>	onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sepa		illai Welland Sile ID.	
The wetland is a fresh wet meadow that	is partially located		
dominated by Phalaris arundinacea, and	d is of low floristic q	uality but is of high	stormwater storage
value.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all the		Surface So	
	r-Stained Leaves (B9)	Drainage F	
	tic Fauna (B13)	Moss Trim	
	Deposits (B15)		n Water Table (C2)
	ogen Sulfide Odor (C1)		urrows (C8)
	zed Rhizospheres on Living I ence of Reduced Iron (C4)		Visible on Aerial Imagery (C9) Stressed Plants (D1)
	nt Iron Reduction in Tilled Sc		
	Muck Surface (C7)	Shallow Ac	
	(Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(Explain in Nomano)	FAC-Neutr	
Field Observations:		<u></u> . , , , , , , , , , , , , , , , , ,	a
Surface Water Present? Yes No ✓ _ Dept	th (inches):		
Water Table Present? Yes _ ✓ No Dept	th (inches): <u>8</u>		
Saturation Present? Yes   ✓ No Dept	th (inches): 0	Wetland Hydrology Pres	ent? Yes <u>√</u> No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, ar	erial photos, previous inspec	tions) if available:	
Describe Necorded Bata (stream gauge, morntoling well, at	mai priotos, previous inspeci	nons), ii avallabic.	
Remarks: The hydrologic regime is seasonally sati	urated with rechard	ne hydrology Part	of the wetland is
located in a roadside ditch, and the wetl	•		
			•
such, the wetland receives significant st	omiwater runon. St	ream sascuzbe rui	ns through the wettand.
1			

**VEGETATION** – Use scientific names of plants.

T 00 ( (D) ( )	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover	-		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1.0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 1.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0_=	= Total Co	ver	OBL species <u>2.0</u> x 1 = <u>2.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>97.0</u> x 2 = <u>194.0</u>
1				FAC species x 3 =0.0
2.				FACU species x 4 =0.0
				UPL species x 5 =0.0
3				Column Totals: <u>99.0</u> (A) <u>196.0</u> (B)
4				Prevalence Index = B/A = 2.0
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size:)				4 - Morphological Adaptations¹ (Provide supporting
1. Phalaris arundinacea	95.0		<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Typha X glauca</u>	2.0	N	OBL	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Impatiens capensis</u>	2.0	N	<b>FACW</b>	1
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	99.0		ver	height.
Woody Vine Stratum (Plot size: 30' )				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	ver	100 <u>4</u> 110 <u>—</u>
Remarks: (Include photo numbers here or on a separate	sheet.)			1
The wetland is dominated by a thick ma	at of Pha	alaris ar	undinac	cea, with other species marginally
present.				

Sampling Point: wasc032e\_w

SOIL Sampling Point: wasc032e\_w

Profile Desc	cription: (Describe t	o the dep	th needed to docum	nent the i	ndicator	or confirm	the absence of indica	tors.)
Depth	Matrix	0/		x Feature:		1 2	Taratrana	Damadia
(inches) 0-10	Color (moist) 7.5YR 2.5/3	<u>%</u> 100	Color (moist)	%	Type'	Loc <sup>2</sup>		Remarks
	7.5YR 3/1			-			SICL	
10 20	7.0110 0/1	100		-				
				· <del></del>				
'Type: C=C  Hydric Soil	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix.  ematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belov	v Surface	(S8) (LRF	RR,	2 cm Muck (A10)	(LRR K, L, MLRA 149B)
	oipedon (A2) stic (A3)		MLRA 149B) Thin Dark Surfa		DD D MI	DA 140B)		dox (A16) ( <b>LRR K, L, R</b> ) t or Peat (S3) ( <b>LRR K, L, R</b> )
	en Sulfide (A4)		Loamy Mucky N				Dark Surface (S7	
	d Layers (A5)	(//4/)	Loamy Gleyed I		2)		-	Surface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	(A11)	Depleted Matrix Redox Dark Sur					e (S9) ( <b>LRR K, L</b> ) Masses (F12) ( <b>LRR K, L, R</b> )
Sandy N	Mucky Mineral (S1)		Depleted Dark S	Surface (F			Piedmont Floodp	olain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic (T/ Red Parent Mate	A6) ( <b>MLRA 144A, 145, 149B</b> )
-	Matrix (S6)							rk Surface (TF12)
Dark Su	rface (S7) (LRR R, M	LRA 149E	3)				Other (Explain in	Remarks)
	f hydrophytic vegetati	on and we	tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
	Layer (if observed):							
Type:	ches).						Hydric Soil Present?	Yes ✓ No
Remarks:	ches):						.,	
	mucky and sa	aturated	d.					



wasc032e\_w\_N



wasc032e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION					
Project name:	Evaluator(s):				
Line 5 Relocation Project	MAL/JW				
File #:	Date of visit(s):				
wasc032	09/25/2019				
Location:	Ecological Landsca	ipe:			
PLSS: <u>045N-003W-08</u>	Superior Coastal Blain				
	Superior Coastal Plain				
Lat: <u>46.389355</u> Long: <u>-90.764078</u>	Watershed:				
	LS12 Marengo River				
County: Ashland Town/City/Village: Ashland town					
,					
SITE DESCRIPTION					
Soils:	WWI Class:				
Mapped Type(s):	N/A				
481E, 713B, 480B, Cornucopia silt loam, 15 to 45 percent slopes, Kellogg-Allendale-Ashwabay complex, 2	Wetland Type(s):				
to 6 percent slopes, Portwing-Herbster complex, 0 to 6 percent slopes	PEM - Fresh Wet Meadow				
Field Verified:	I LIVI I ICSII VVC	t weadow			
Series not verified. The soils consist of a loamy	Wetland Size:	Wetland Area Impacted			
modified mucky mineral over a silty clay loam.	0.58	0.58			
modified macky militeral over a sitty day loam.		0.30			
	Vegetation:	)			
Hydrology:	Plant Community D				
, , ,	The wetland is densely vegetated and				
Seasonally saturated basin with recharge hydrology.	dominated almos	dominated almost entirely by reed canary			
Feature receives water from the adjacent roadway. The	grass.				
wetland is associated with a culvert and ditch. Saturation	91400.				
present at 0 inches, water table at 8 inches.					

SITE MAP		

### **SECTION 1: Functional Value Assessment**

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
F			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
0			
8	N N	N	Part of a large habitat block that supports area sensitive species
9	N N	Y	Ephemeral pond with water present > 45 days
10	<u>N</u>	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	<u>N</u>	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	_		Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N!	N.I	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ		.,	Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	<u> </u>	Y	Vegetated wetland associated with a lake or stream
5	<u>т</u> Ү	Y	Dense, persistent vegetation
6			Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
H	N N	N	
7	N_	N	Stormwater or surface water from agricultural land is major hydrology source
8	N_	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	-		•

		at and Species Observation (including amphibians and reptiles)
	nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Observed	Y	species which utilize disturbed, patchy, habitat including amphibians, small mammals, and s
Fie	h and Agus	stic Life Habitat and Species Observations
Lis	and Aqua at: direct ob	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Chaoisa/Habitat
Onserved	rotential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU-3: The feature is visible from the adjacent roadway. WH-10, FA-2, 4: Supports standing water periodically, likely consistently early in the growing season or during periods of high rainfall

### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	iant John Mary Mogrey (Jan 313)									
	Low	Medium	High	Exceptional						
Invasive species cover	> 50% 🗸	20-50%	10-20%	<10%						
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented						
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)						
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare						
FQI (optional)	<13	13-23	23-32	>32						
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7						

<sup>\*</sup>Note: separate plant communities are described independently

### Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Phalaris arundinacea			PEM	Abundant
Typha X glauca			PEM	Uncommon
Typha X glauca Impatiens capensis			PEM	Uncommon

## **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has dense herbaceous cover and low overall floristic integrity and diversity due to near continuous reed canary grass cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
X	Х		Н	С	Roads or railroad
Х			L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
	Х	Х	М	С	Removal of tree or shrub strata – logging,
	^	^	IVI	C	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ			Н		Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

ı	The feature is impacted by a nearby roadway and has historically been impacted by herbaceous and and tree layer
ı	removal. There is also considerable invasive species cover.
ı	
I	
I	
I	
I	
ı	

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage			<b>√</b>		
Water Quality Protection			<b>√</b>		
Groundwater Processes	<b>√</b>				

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and impacted by high invasive species cover.
Human Use Values	This wetland is potentially visible from the adjacent roadway and not used for recreation or research.
Wildlife Habitat	Proximity to roadway and high invasive cover.
Fish and Aquatic Life Habitat	The wetland is seasonally saturated and associated with a culvert and ditch which support standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is within a slight basin, receives runoff from a roadway, and is very densely vegetated.
Water Quality Protection	The feature is densely vegetated and associated with culvert and ditch which receives polluted runoff.
Groundwater Processes	The feature does not show signs of groundwater processes but is saturated with a water table present.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project 0	City/County: Ashland Sampling Date: 2019-09-25
Applicant/Owner: Enbridge	State: WI Sampling Point: wasc032_u
Investigator(s): BRG/JSW	Section, Township, Range: <u>045N-003W-08</u>
	al relief (concave, convex, none): Convex Slope (%): 3-7%
	Long: <u>-90.764207</u> Datum: <u>WGS84</u>
	cent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	•
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally rol	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No✓	Is the Sampled Area
Hydric Soil Present? Yes No✓	within a Wetland? Yes No
Wetland Hydrology Present? Yes No✓	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report	t.) slope that has been heavily disturbed by earthworm
activity.	slope that has been heavily disturbed by earthworth
activity.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained L	
High Water Table (A2) Aquatic Fauna (	
Saturation (A3) Marl Deposits (E Water Marks (B1) Hydrogen Sulfid	
	e Odor (C1) Crayfish Burrows (C8)  spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Oxidized Mileos Oxidized Mileos Drift Deposits (B3) Presence of Rec	
<u> </u>	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfa	
Inundation Visible on Aerial Imagery (B7) Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	<u> </u>
Surface Water Present? Yes No _ ✓ _ Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No ✓ Depth (inches):	Wetland Hydrology Present? Yes No _✓
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos	s previous inspections) if available:
Describe Necorded Data (Stream gauge, monitoring wen, acriai priotec	s, previous inspections), ii available.
Remarks: No indicators of wetland hydrology were observed.	vod.
Indifficators of wetland hydrology were observed	/eu.
T Company of the Comp	

**VEGETATION** – Use scientific names of plants.

/EGETATION - Use scientific names of plants.				Sampling Point: wasc032_u
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Populus tremuloides	60.0	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2. <u>Picea glauca</u>	10.0	N	<u>FACU</u>	Total Number of Dominant
3. <u>Pinus resinosa</u>	10.0	N	<u>FACU</u>	Species Across All Strata:
4. Betula papyrifera	5.0	_N_	<u>FACU</u>	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 20.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	85.0	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species1 x 2 =2
1. Corylus cornuta	10.0	Y	<u>FACU</u>	FAC species 60 x 3 = 180
2. <u>Picea glauca</u>	10.0	Y	<u>FACU</u>	FACU species <u>65</u> x 4 = <u>260</u>
3. <u>Pinus resinosa</u>	10.0	Y	<u>FACU</u>	UPL species $0 \times 5 = 0$ Column Totals: $126 \times 6 \times 5 = 0$
4. <u>Tilia americana</u>	5.0	N	<u>FACU</u>	
5		- · <u> </u>		Prevalence Index = B/A = 3.51
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5' )		-		3 - Prevalence Index is ≤3.0¹
1. Carex gracillima	5.0	Y	<u>FACU</u>	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Fraxinus pennsylvanica	1.0	N	<b>FACW</b>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Hieracium sp.</u>	1.0	N		
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10.				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.		-	-	Woody vines – All woody vines greater than 3.28 ft in
12		= Total Co	/er	height.
Woody Vine Stratum (Plot size: 30')		_= 10(a) 00	VOI	
1				
2.				
3.				Hydrophytic
4.				Vegetation
	-	= Total Cov	ver	Present? Yes No/_
Remarks: (Include photo numbers here or on a separate s	sheet.)			1
The upland is dominated by large Popu				•
shrubs, and a sparse herbaceous layer	. The a	rea is he	eavily w	ormed.

US Army Corps of Engineers

SOIL Sampling Point: wasc032\_u

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix	0/		x Features	4	1 2	T	Devedo
(inches)	Color (moist)		Color (moist)	%	Type'	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0-20	7.5YR 4/4	100		· <del></del>			SIL	
		·			·			
				· <del></del>	-			
		-		·	-			
	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil			Dalasaksa Dalas	0(	(OO) (I DI			r Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(S8) (LRI	κκ,		ck (A10) ( <b>LRR K, L, MLRA 149B</b> ) airie Redox (A16) ( <b>LRR K, L, R</b> )
	stic (A3)	_	Thin Dark Surfa		RR R, MI	RA 149B)		cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	-	Loamy Mucky N			, L)		face (S7) (LRR K, L)
	d Layers (A5)	- (044)	Loamy Gleyed I		2)			e Below Surface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11)	<ul><li>Depleted Matrix</li><li>Redox Dark Suit</li></ul>					k Surface (S9) ( <b>LRR K, L</b> ) ganese Masses (F12) ( <b>LRR K, L, R</b> )
	Mucky Mineral (S1)	-	Depleted Dark \$					t Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	-	Redox Depress		,			odic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)							ent Material (F21)
	Matrix (S6)							allow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILKA 149B	)				Other (E)	xplain in Remarks)
	f hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:								
	ches):		<u> </u>				Hydric Soil Pr	resent? Yes No/
Remarks:	م ممنا انمطام معدم		مام مسرمط					
No nyan	c soil indicator	s were	observed.					



wasc032\_u\_E



wasc032\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-09-25
Applicant/Owner: Enbridge			
Investigator(s): BRG/JSW	Section, Township	o, Range: <u>045N-003</u>	3W-08
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.38			
Soil Map Unit Name: Kellogg-Allendale-Ashwabay o			
Are climatic / hydrologic conditions on the site typical for this tim		·	
Are Vegetation _ ✓ , Soil, or Hydrology signif			
Are Vegetation, Soil, or Hydrology natur			
SUMMARY OF FINDINGS – Attach site map sho	owing sampling poi	nt locations, trans	sects, important features, etc.
Hydrophytic Vegetation Present?  Yes  ✓ No  Hydric Soil Present?  Yes  ✓ No  No  No  No  No  No  No  No  No  No	within a W	etland? Yes	
Wetland Hydrology Present? Yes ✓ No _		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate The wetland is a fresh wet meadow locate	te report.) ed in a ditch alond	a paved road.	and is dominated by reed
canary grass.			ŕ
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary	Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	apply)	Surface	e Soil Cracks (B6)
	Stained Leaves (B9)		ge Patterns (B10)
	Fauna (B13)		Γrim Lines (B16)
✓ Saturation (A3) Marl De			eason Water Table (C2)
	en Sulfide Odor (C1) d Rhizospheres on Living		sh Burrows (C8) tion Visible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		d or Stressed Plants (D1)
	Iron Reduction in Tilled So		orphic Position (D2)
	ick Surface (C7)		w Aquitard (D3)
	Explain in Remarks)	<del></del>	ppographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			leutral Test (D5)
Field Observations:			
Surface Water Present? Yes No✓ Depth (			
Water Table Present? Yes No _ ✓ Depth (			
Saturation Present? Yes _ ✓ No Depth ( (includes capillary fringe)	(inches): <u>0</u>	Wetland Hydrology P	Present? Yes/ No
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspec	tions), if available:	
Remarks:			
The hydrologic regime is seasonally satur	ated, with rechar	ge hydrology. Th	ne wetland receives
stormwater runoff from the adjacent paved	d road, and is inu	ndated after rain	events.

**VEGETATION** – Use scientific names of plants.

<b>/EGETATION</b> – Use scientific names of plants				Sampling Point: wasc033e_w
Tree Stratum (Plot size:30')			t Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:
2				Total Number of Dominant
3				Species Across All Strata: 1.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	0.0	= Total Co	over	OBL species x 1 =0.0
Sapling/Shrub Stratum (Plot size:)				FACW species 95.0 x 2 = 190.0
1	_			FAC species 5.0 x 3 = 15.0
2				FACU species 0.0 x 4 = 0.0  UPL species 0.0 x 5 = 0.0
3	_			Column Totals: 100.0 (A) 205.0 (B)
4				
5	_			Prevalence Index = B/A =2.1
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	<ul> <li>✓ 2 - Dominance Test is &gt;50%</li> <li>✓ 3 - Prevalence Index is ≤3.0¹</li> </ul>
Herb Stratum (Plot size: 5' )  1. Phalaris arundinacea	95.0	Υ	FACW	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
2. Rumex crispus			FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3.				4
4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	100.0	= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
	0.0	= Total Co	over	Tresent: Tes No
Remarks: (Include photo numbers here or on a separate The wetland is dominated by a thick m the wetland near the road is mowed.		alaris a	rundinad	cea. Some vegetation on the edge of

SOIL Sampling Point: wasc033e\_w

		the dep				or confirm	the absence of indicators	5.)
		%			4	Loc <sup>2</sup>	Teyture	Remarks
Hydric Soil  Histoso Histic E Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy F			Color (moist)	v Surface ce (S9) (L ineral (F1 Matrix (F2) (F3) face (F6) surface (F	Sand Gra	R R, _RA 149B)	Coast Prairie Redox 5 cm Mucky Peat or Dark Surface (S7) (I Polyvalue Below Su Thin Dark Surface (Same the companies of the c	atic Hydric Soils <sup>3</sup> :  RR K, L, MLRA 149B)  (A16) (LRR K, L, R)  Peat (S3) (LRR K, L, R)  LRR K, L)  rface (S8) (LRR K, L)  S9) (LRR K, L)  sses (F12) (LRR K, L, R)  Soils (F19) (MLRA 149B)  (MLRA 144A, 145, 149B)  (F21)
Dark Su	ırface (S7) (LRR R, ML	RA 149E	3)				✓ Other (Explain in Region of the control of t	emarks)
	of hydrophytic vegetation  Layer (if observed):	on and we	tland hydrology must	be prese	nt, unless	disturbed	or problematic.	
Type:	Layer (ii observed).							
	nches):						Hydric Soil Present?	Yes <u>√</u> No
							thin the roadside of hydrophytic vege	



wasc033e\_w\_E



wasc033e\_w\_W

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	MAL/JSW			
File #:	Date of visit(s):			
wasc033	09/25/2019			
Location:	Ecological Landscape:			
PLSS: <u>045N-003W-08</u>	Superior Coastal Plain			
	Capenor Coastar Flairi			
Lat: <u>46.389416</u> Long: <u>-90.76195</u>	Watershed:			
A 11 14	LS12, Marengo River			
County: Ashland Town/City/Village: Ashland town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
92F, 713B, Udorthents, ravines and escarpments, 25 to 60 percent	Wetland Type(s):			
slopes, Kellogg-Allendale-Ashwabay complex, 2 to 6 percent slopes	PEM - Fresh Wet Meadow			
Field Verified:				
Series not verified. Soils were not sampled due to	Wetland Size:	Wetland Area Impacted		
the proximity of underground utilities.	0.13	0.13		
	Vegetation:			
	Plant Community D	escription(s):		
Hydrology:		ensely vegetated and		
Seasonally saturated linear basin/ditch with recharge	dominated almost entirely by reed canary			
hydrology. Feature receives water from the adjacent				
roadway and is likely inundated following rain events.	grass. Some vegetation near the boundaries			
9	of the wetland is mowed.			

SITE MAP		

### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	Ν	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3		N N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
	N	N	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	Υ	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	.,		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST	- 14	IN	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4			Evidence of flashy hydrology
-	N	N	Point or non-point source inflow
5	Y	Y	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	Ν	N	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
	N	N	
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ok nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	
	Y	hich utilize disturbed and patchy habitat. Wildlife such as small mammals/rodents, amphibian
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
		·

Section 1 Comments (Refer to Section 1 numbers)

HU-3: The feature is visible from the adjacent roadway. WH-10, FA-2, 4: Supports standing water periodically, likely consistently early in the growing season or during periods of high rainfall.

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%√	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Abundance)
Phalaris arundinacea			PEM	Abundant
Rumex crispus			PEM	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The wetland has dense herbaceous cover and low overall floristic integrity and diversity due to near continuous reed canary grass cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
X	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	Х		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is impacted by a nearby roadway and has historically been impacted by herbaceous and and tree layer
removal. There is also considerable invasive species cover.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	<b>√</b>				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and impacted by high invasive species cover.
Human Use Values	This wetland is potentially visible from the adjacent roadway and not used for recreation or research.
Wildlife Habitat	Proximity to roadway and high invasive cover.
Fish and Aquatic Life Habitat	The wetland is seasonally saturated and associated with a culvert and ditch which support standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is within a slight basin, receives runoff from a roadway, and is very densely vegetated.
Water Quality Protection	The feature is densely vegetated and associated with culvert and ditch which receives polluted runoff.
Groundwater Processes	The feature does not show signs of groundwater processes but is saturated with a water table present.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/0	County: Ashland		Sampling Date: 2019-09-25	
	•				Sampling Point: wasc033_u	
Investigator(s): BRG/JSW						
					Slope (%): <u>0-2%</u>	
					Datum: WGS84	
					tion:	
Are climatic / hydrologic condit						
					esent? Yes✓ No	
Are Vegetation, Soil						
SUMMARY OF FINDING	3S – Attach sit	e map showing san	npling point location	ons, transects, i	important features, etc.	
Hydrophytic Vegetation Prese	ent? Yes	✓ No	Is the Sampled Area			
Hydric Soil Present?		No <u></u>	within a Wetland?	Yes	_ No <u> </u>	
Wetland Hydrology Present?			If yes, optional Wetland	d Site ID:		
Remarks: (Explain alternative The upland is located to the content of the content	e procedures here c	or in a separate report.) Her of a small hav	field Vegetation	ı is facultative	and does meet	
hydrophytic requirer		•	•			
wetland/upland hyd	•	•	•	0,	asi Deiween	
	opriyiic vege	tation indicate the	at the area is not	wellariu.		
HYDROLOGY						
Wetland Hydrology Indicate	ors:			Secondary Indicato	ors (minimum of two required)	
Primary Indicators (minimum	of one is required; of			Surface Soil Ci	racks (B6)	
Surface Water (A1)		Water-Stained Leave		Drainage Patte		
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)		Marl Deposits (B15)			ater Table (C2)	
Water Marks (B1)		Hydrogen Sulfide Oc		Crayfish Burro		
Sediment Deposits (B2)		<ul><li>Oxidized Rhizospher</li><li>Presence of Reduce</li></ul>	-		ble on Aerial Imagery (C9)	
Drift Deposits (B3) Algal Mat or Crust (B4)		Recent Iron Reduction	` '	Stunted or Stre		
Iron Deposits (B5)		Thin Muck Surface (		Shallow Aquita		
Inundation Visible on Ae	rial Imagery (B7)	Other (Explain in Re	•	Microtopograpi		
Sparsely Vegetated Con		Other (Explain in Net	mano)	FAC-Neutral To		
Field Observations:	<u> </u>				001 (20)	
Surface Water Present?	Yes No	✓ Depth (inches):				
Water Table Present?		✓ Depth (inches):				
Saturation Present?		✓ Depth (inches):		Hydrology Present?	? Yes No✓_	
(includes capillary fringe)				7.11		
Describe Recorded Data (stre	eam gauge, monitor	ing well, aerial photos, pre	evious inspections), if ava	allable:		
Remarks:						
No indicators of wet	land hydrolog	gy were observed				

**VEGETATION** – Use scientific names of plants.

Trace Obstance (Distriction 20)	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Acer negundo			FAC	That Are OBL, FACW, or FAC:6.0 (A)
2. Fraxinus pennsylvanica				Total Number of Dominant
3. <u>Ulmus americana</u>				Species Across All Strata: 7.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 85.71428571428571 (A/B)
5				That Are OBL, FACW, OF FAC.
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	15.0	= Total Co	ver	OBL species <u>0.0</u> x 1 = <u>0.0</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species x 2 = 30.0
1. <u>Prunus virginiana</u>	5.0	<u>Y</u>	<u>FACU</u>	FAC species 80.0 x 3 = 240.0 FACU species 12.0 x 4 = 48.0
2				UPL species
3				Column Totals: 107.0 (A) 318.0 (B)
4				
5				Prevalence Index = B/A =3.0
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	5.0	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1. Rubus idaeus	40.0	Y	FAC	data in Remarks or on a separate sheet)
2. <u>Setaria pumila</u>	30.0	Y	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3. <u>Phalaris arundinacea</u>		N	FACW	4
4. Solidago altissima		N	FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Ambrosia artemisiifolia</u>			FACU	Definitions of Vegetation Strata:
6				
7				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	····	height.
Woody Vine Stratum (Plot size:30')	02.0	- Total Co	vei	
1. Clematis virginiana	5.0	V	ΕΛC	
•				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
Remarks: (Include photo numbers here or on a separate	<u> </u>	= Total Co	ver	
The upland is located on the edge of a		ay field,	and is f	illed with weedy facultative vegetation.
·		,		,

Sampling Point: wasc033\_u

SOIL Sampling Point: wasc033\_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix			Features	4			
(inches)	Color (moist)	<u></u> %	Color (moist)		Type'	Loc <sup>2</sup>	Texture	Remarks
¹Type: C=Co	ncentration, D=Deple	tion, RM=R	Reduced Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: PL	=Pore Lining, M=Matrix.
Hydric Soil I								Problematic Hydric Soils <sup>3</sup> :
Black His Hydrogel Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped	ipedon (A2)	_ _ _	Polyvalue Below MLRA 149B) Thin Dark Surfar Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	ce (S9) ( <b>L</b> lineral (F1 Matrix (F2) (F3) face (F6) Surface (F	RR R, ML ) (LRR K,	RA 149B)	Coast Prair 5 cm Mucky Dark Surface Polyvalue E Thin Dark S Iron-Manga Piedmont F Mesic Spool Red Parent Very Shallo	(A10) (LRR K, L, MLRA 149B) ie Redox (A16) (LRR K, L, R) y Peat or Peat (S3) (LRR K, L, R) se (S7) (LRR K, L) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) inese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B) dic (TA6) (MLRA 144A, 145, 149B) Material (F21) by Dark Surface (TF12) ain in Remarks)
	hydrophytic vegetation	on and wetla	and hydrology must	be prese	nt, unless	disturbed	or problematic.	
Type:	ayer (if observed):							
Depth (inc	hes):		<del></del>				Hydric Soil Pres	sent? Yes No _✓_
	assumed to be							ear the road. As such, ack of wetland



wasc033\_u\_E



wasc033\_u\_W

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-09-25		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW			· -		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat					
Soil Map Unit Name: <u>Udorthents, ravines and</u>		•			
Are climatic / hydrologic conditions on the site typical for					
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes No		
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	ers in Remarks.)		
SUMMARY OF FINDINGS - Attach site m	nap showing sampling poi	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes   ✓	No Is the Sam	pled Area			
	No within a W	etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes   ✓		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in	a separate report.)				
The wetland is a disturbed fresh we	t meadow located adjac	ent to a perennial s	tream.		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)		
Primary Indicators (minimum of one is required; chec	k all that apply)	Surface Soil			
	Water-Stained Leaves (B9)	Drainage Patterns (B10)			
	Aquatic Fauna (B13)	Moss Trim Lines (B16)			
	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bur	rows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation V	isible on Aerial Imagery (C9)		
	Presence of Reduced Iron (C4)		tressed Plants (D1)		
	Recent Iron Reduction in Tilled So				
	Thin Muck Surface (C7)	Shallow Aqu			
	Other (Explain in Remarks)	Microtopogra			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)		
Field Observations:	Denth (Seekee)				
	Depth (inches):				
	Depth (inches):	Watland Hydrology Drace	-+2 Vos / No		
(includes capillary fringe)		Wetland Hydrology Preser	it! fes NO		
Describe Recorded Data (stream gauge, monitoring v	well, aerial photos, previous inspec	tions), if available:			
Remarks:					
The hydrologic regime is seasonally	saturated, with dischar	rge hydrology. Wate	er runoff from the		
nearby sparsely vegetated slope co	llects in the shallow bas	sin, but the wetland	discharges water into		
adjacent perennial stream sasc022g	).				

#### **VEGETATION** – Use scientific names of plants.

<b>'EGETATION</b> – Use scientific names of plants.				Sampling Point: wasc031e_w		
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
1. <u>Ulmus americana</u>	_5.0_	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)		
2. <u>Betula alleghaniensis</u> 3				Total Number of Dominant Species Across All Strata:		
4.     5.				Percent of Dominant Species That Are OBL, FACW, or FAC:		
6				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
	10.0	= Total Cov	ver .	OBL species37 x 1 =37		
Sapling/Shrub Stratum (Plot size:)				FACW species35 x 2 =70		
1. <u>Abies balsamea</u>	5.0	Y	FAC	FAC species <u>22</u> x 3 = <u>66</u>		
2. <u>Ulmus americana</u>	5.0	Y	<b>FACW</b>	FACU species 12 x 4 = 48		
3	. <u></u>			UPL species $0 \times 5 = 0$ Column Totals: $106 \times 6 \times 5 = 0$		
4				Column Totals. 100 (A) 221 (B)		
5				Prevalence Index = B/A = 2.08		
6				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
	10 = Total Cover			✓ 2 - Dominance Test is >50%		
Herb Stratum (Plot size:5' )				3 - Prevalence Index is ≤3.0¹      A Marghabatical Advantation 1 (Provide appropriate)		
1. Glyceria striata	20.0	Y	OBL	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)		
2. <u>Impatiens capensis</u>	20.0	Y	<b>FACW</b>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)		
3. <u>Carex stipata</u>	10.0	Y	OBL	1		
4. <u>Fraxinus nigra</u>		N	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
5. <u>Cirsium vulgare</u>	5.0	N	FACU	Definitions of Vegetation Strata:		
6. <u>Scirpus hattorianus</u>		N	OBL	-		
7. <u>Symphyotrichum lateriflorum</u>		N	FAC	<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8. <u>Carex gracillima</u>		N	FACU	Sapling/shrub – Woody plants less than 3 in. DBH		
9. Rumex obtusifolius		N	FAC	and greater than or equal to 3.28 ft (1 m) tall.		
10. Oxalis stricta	2.0	N	FACU	Herb – All herbaceous (non-woody) plants, regardless		
11. Equisetum hyemale	2.0	N	FAC	of size, and woody plants less than 3.28 ft tall.		
12. Chelone glabra	2.0	N	OBL	Woody vines – All woody vines greater than 3.28 ft in		
	94.0	= Total Cov	er	height.		
Woody Vine Stratum (Plot size:)						
1						
2.						
3				Hydrophytic		
4				Vegetation		
*		= Total Cov	/er	Present? Yes No		
Remarks: (Include photo numbers here or on a separate s				<u> </u>		

The wetland is dominated by Impatiens capensis and is filled with various herbaceous species. A number of dead trees, mostly Betula alleghaniensis, are present throughout the wetland, however, living tree cover is low.

SOIL Sampling Point: wasc031e\_w

	cription: (I		to the dep	th needed				or confirm	the absence	of indicators.)
Depth (inches)	Color (	Matrix (moist)	%	Color (r		x Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-20	5YR	3/2	95	5YR	4/6	_5_	C	_M_	VFSL	Prominent redox
						· ·				
¹Type: C=C	oncentratio	n, D=Depl	etion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.	<sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators								Indicators	for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2	2)			alue Belov <b>RA 149B</b> )	v Surface	(S8) ( <b>LR</b>	R R,		Muck (A10) ( <b>LRR K, L, MLRA 149B</b> ) Prairie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	istic (A3)			Thin D	oark Surfa	ce (S9) ( <b>L</b>		LRA 149B)	5 cm N	Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A d Layers (A					/lineral (F1 Matrix (F2)		(, L)		Surface (S7) ( <b>LRR K, L</b> ) slue Below Surface (S8) ( <b>LRR K, L</b> )
Deplete	d Below Da	ırk Surface	e (A11)	Deple	ted Matrix	(F3)			Thin D	ark Surface (S9) (LRR K, L)
	ark Surface ⁄lucky Mine	. ,			Dark Sur	rface (F6) Surface (F	7)			anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
	Bleyed Mati				Depress		' )			Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	•\								arent Material (F21)
	Matrix (S6 rface (S7)		ILRA 149	В)						Shallow Dark Surface (TF12) (Explain in Remarks)
		-	ion and w	etland hydro	ology mus	t be prese	nt, unles	s disturbed	or problemation	<b>3</b> .
Restrictive   Type:	Layer (if ol	oserved):								
• • •	ches).								Hydric Soil	Present? Yes _ ✓ No
Remarks:	onco)									
Soils are	sandy	and co	ntain r	edox th	roughc	out. The	e area	is very	heavily w	ormed.



wasc031e\_w\_N



wasc031e\_w\_S

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/JW		
File #:	Date of visit(s):		
wasc031	09/25/2019		
Location:	Ecological Landsca	pe:	
PLSS: <u>045N-003W-08</u>	Superior Coastal Plain		
	Caponor Codotai i idiii		
Lat: <u>46.389268</u> Long: <u>-90.760241</u>	Watershed:		
A alla alta a	LS12, Marengo River		
County: Ashland Town/City/Village: Ashland town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
92F, Udorthents, ravines and escarpments, 25 to 60 percent slopes	Wetland Type(s):		
	PEM - Fresh Wet Meadow		
Field Verified:			
Series not verified. The soils consist of a very fine	Wetland Size:	Wetland Area Impacted	
sandy loam texture.	0.04	0.04	
·	Vegetation:		
	Plant Community D	escription(s):	
Hydrology:	Sparse canopy cover of American elm, paper		
Seasonally saturated basin with discharge hydrology.	birch, with an herb layer dominated by		
Feature receives water from slope to the east. Wetland is			
associated with waterbody sasc022p.	common jewelweed (impatiens capensis).		
	There are a num	ber of dead trees throughout.	

SITE MAP		

#### SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
		.,	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	1,4	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5		N N	Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	N	N	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Υ	Υ	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Ϋ́	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
1	N.I	N.I	Provides substantial storage of storm and floodwater based on previous section
	N	N	Basin wetland or constricted outlet
2	Y	Y	
3	Y	Y	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	<u></u>		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I I N	I IN	Troduction to within a wominous protocitor area

Se	ection 1 Con	nments (Refer to Section 1 numbers)
		acent roadway. WH-10, FA-2: Associated with a small stream at the margin of the feature. WH-2: Three strata present but tree and shrub cover is sparse
(,,		
		at and Species Observation (including amphibians and reptiles)
		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Wi	nter, etc.	
Observed	Potential	Species/Habitat/Comments
0.000.100	Y	and provides habitat for stream associated species as well as songbirds, small mammals, am
		atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
Observed	Fotential	Opecies/Habitat
	1	

#### **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4 <b>/</b>	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

<sup>\*</sup>Note: separate plant communities are described independently

## Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Ulmus americana			PEM	Uncommon
Betula alleghaniensis			PEM	Uncommon
Abies balsamea			PEM	Uncommon
Glyceria striata			PEM	Common
Impatiens capensis			PEM	Common
Carex stipata			PEM	Common
Fraxinus nigra			PEM	Uncommon
Cirsium vulgare			PEM	Uncommon
Scirpus hattorianus			PEM	Uncommon
Symphyotrichum lateriflorum			PEM	Uncommon
Carex gracillima			PEM	Uncommon
Rumex obtusifolius			PEM	Uncommon
Oxalis stricta			PEM	Uncommon
Equisetum hyemale			PEM	Uncommon
Chelone glabra			V	Uncommon

# **SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)**

The disturbed wetland has sparse tree and shrub cover and is dominated by jewelweed with various other herbaceous species and little to no invasive cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		M	С	Agriculture – hay
					Agriculture – pasture
	Х		М	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
				Other (list below):	

<sup>\*</sup> L= Low, M = Medium, H = High

#### **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

The feature is impacted by a nearby roadway and has historically been impacted by herbaceous and and tree layer removal.

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	$\checkmark$				
Human Use Values	<b>√</b>				
Wildlife Habitat	<b>√</b>				
Fish and Aquatic Life Habitat		<b>√</b>			
Shoreline Protection					<b>1</b>
Flood and Stormwater Storage		<b>/</b>			
Water Quality Protection		<b>√</b>			
Groundwater Processes		<b>✓</b>			

FUNCTION	RATIONALE
Floristic Integrity	Low overall diversity and impacted by removal of strata.
Human Use Values	This wetland is potentially visible from the adjacent roadway and not used for recreation or research.
Wildlife Habitat	The feature has a largely bare canopy and low floristic integrity.
Fish and Aquatic Life Habitat	The wetland is seasonally saturated and associated with a small disturbed stream.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is within a slight basin and is moderately densely vegetated.
Water Quality Protection	The feature is densely vegetated at the herbaceous layer (95% cover) and associated with a stream.
Groundwater Processes	The feature discharges to stream and does not show multiple signs of groundwater processes.

# **Section 4: Project Impact Assessment**

# Brief Project Description Enbridge Line 5 pipeline route analysis.

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

# WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relo	cation Project	t	City/C	County: Ash	nland	§	Sampling Date:	2019-09-25	
Applicant/Owner: Enbridg	e					State: WI	Sampling Poil	nt: <u>wasc031_</u> u	
Investigator(s): BRG/JSV									
Landform (hillslope, terrace, e									
Subregion (LRR or MLRA): N									
Soil Map Unit Name: Udortl									
Are climatic / hydrologic condi									
Are Vegetation, Soil _								√ No	
Are Vegetation, Soil								<u>v</u> 140	
SUMMARY OF FINDING	GS – Attach sit	te m	nap showing san	ipling poi	nt locatior	ns, transects, i	important fe	eatures, etc.	
Hydrophytic Vegetation Pres	sent? Yes		No <u></u>	Is the Sam					
Hydric Soil Present?				within a W	etland?	Yes	No <u>√</u>		
Wetland Hydrology Present?	Yes _		_ No <u></u>	If yes, option	onal Wetland	Site ID:			
Remarks: (Explain alternative	ve procedures here	or in	a separate report.)	م مامم	and has	boon biably	diaturbad	by covere	
The upland sample	point is locati	eu	near the top of	a slope,	and nas	been nignly	aistaibea	by severe	
worm activity.									
HYDROLOGY									
Wetland Hydrology Indicat	ors:				<u> </u>	Secondary Indicato	ors (minimum of	two required)	
Primary Indicators (minimum	of one is required;	chec	k all that apply)			Surface Soil C	racks (B6)		
Surface Water (A1)			Water-Stained Leave	s (B9)	_	Drainage Patterns (B10)			
High Water Table (A2)			Aquatic Fauna (B13)		_	Moss Trim Lines (B16)			
Saturation (A3)		_	Marl Deposits (B15)		_	Dry-Season Water Table (C2)			
Water Marks (B1)			Hydrogen Sulfide Od			Crayfish Burrows (C8)			
Sediment Deposits (B2)			Oxidized Rhizospher	_		Saturation Visi			
Drift Deposits (B3)			Presence of Reduced			Stunted or Stre		1)	
Algal Mat or Crust (B4)			Recent Iron Reduction			Geomorphic P			
Iron Deposits (B5) Inundation Visible on Ae	rial Imagen (DZ)		Thin Muck Surface (C	•		Shallow Aquita			
Sparsely Vegetated Cor	• • • •	_	Other (Explain in Rer	narks)	=	<ul><li>Microtopograph</li><li>FAC-Neutral T</li></ul>			
Field Observations:	icave Surface (Bo)					rac-neutral r	esi (D3)		
Surface Water Present?	Ves No	1	Depth (inches):						
Water Table Present?			Depth (inches):						
Saturation Present?			Depth (inches):		Wetland Hy	/drology Present?	? Yes	No 🗸	
(includes capillary fringe)					_				
Describe Recorded Data (str	ream gauge, monitor	ring v	well, aerial photos, pre	vious inspec	tions), if avail	able:			
Remarks:									
No indicators of we	tland hydrolog	av 1	were observed						
l to marcatoro or mo		9) '		-					

**VEGETATION** – Use scientific names of plants.

				Sampling Point: <u>wasc031_u</u>				
Tree Stratum (Plot size: 30' )	nt Indicator Status	Dominance Test worksheet:						
. <u>Tsuga canadensis</u>	_60.0	Y	FACU	Number of Domir That Are OBL, FA			0	(A)
Acer saccharum			FACU				U	. (7.1)
B. <u>Betula alleghaniensis</u>			FAC	Total Number of Species Across A			2	(B)
i.				· .				. ,
5.				Percent of Domin		es AC:	0.00	(A/B)
								, ,
S				Prevalence Inde				
<sup>7</sup>				Total % Cove			ultiply by:	
451	80.0	= Total Co	over	OBL species _ FACW species _				
Sapling/Shrub Stratum (Plot size: 15')	00.0		E 4 O 1 1	FAC species _				
. <u>Tsuga canadensis</u>				FACU species _				
2				UPL species _				
3		-		Column Totals:				
k								
5				Prevalence	Index = B	/A =	3.90	_
5				Hydrophytic Veg	getation In	dicators	:	
·		-		1 - Rapid Tes	-		egetation	
	20 = Total Cover —			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 <sup>1</sup>				
Herb Stratum (Plot size:5' )								
1				4 - Morpholo	gical Adap emarks or o	tations' (l on a sepa	Provide sup rate sheet	oportino I
2.				Problematic				
				_	, , ,	Ü	` .	,
3				<sup>1</sup> Indicators of hyd				must
4				be present, unles	s disturbed	d or probl	ematic.	
5				Definitions of Ve	egetation	Strata:		
5				Tree – Woody pla				iameter
7				at breast height (	DBH), rega	ardless of	height.	
3				Sapling/shrub –				BH
9				and greater than	or equal to	3.28 ft (	1 m) tall.	
10				Herb – All herbad				ardless
11		-		of size, and wood	ly plants le	ss than 3	.28 ft tall.	
12.				Woody vines – A	All woody v	rines grea	ter than 3.	28 ft in
	0.0	= Total Co	over	height.				
Noody Vine Stratum (Plot size:)								
2.								
3.				Hydrophytic				
4				Hydrophytic Vegetation				
т.		= Total Co		Present?	Yes	N	0	
	0.0	= Total Co	over					

SOIL Sampling Point: wasc031\_u

Profile Desc	cription: (E	Describe 1	to the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)		
Depth (inches)	Color (	Matrix	0/	Color (		x Features	1	Loc <sup>2</sup>	Touturo	Domorko		
(inches)	Color ( 7.5YR		<u>%</u> 98	Color (r		<u>%</u>	Type'	M	Texture SII	Prominent redox		
6-12	5YR	4/4	100	OTIK	0/0			<u> </u>	SIL	1 TOTHINGTIC TOGGY		
12-20									SIL			
						·						
				_								
				_								
<sup>1</sup> Type: C=C			etion, RM:	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil Histosol				Polyne	aluo Bolov	w Surface	(CQ) /I DI	D D		s for Problematic Hydric Soils <sup>3</sup> : Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2	2)		ML	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)		
	istic (A3) en Sulfide ( <i>A</i>	44)				ice (S9) ( <b>L</b> ⁄lineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)		
Stratifie	d Layers (A	5)		Loam	y Gleyed I	Matrix (F2		, <b>-</b> )	Polyva	alue Below Surface (S8) (LRR K, L)		
	d Below Da ark Surface		e (A11)		ted Matrix					Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)		
	Aucky Mine					Surface (F	7)			Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Eleyed Matr	ix (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)			
-	Redox (S5) I Matrix (S6	)							Red Parent Material (F21)      Very Shallow Dark Surface (TF12)			
Dark Su	rface (S7) (	LRR R, N	ILRA 149E	3)					Other	(Explain in Remarks)		
				etland hydro	ology mus	t be prese	ent, unles:	s disturbed	or problemati	c.		
Restrictive Type:	Layer (if ob	served):										
l	ches):								Hydric Soi	I Present? Yes No✓		
Remarks:												
No hydri	c soil in	dicator	s were	observ	ed.							



wasc031\_u\_N



wasc031\_u\_S

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland	Sampling Date: 05-Oct-19
Applicant/Owner: Enbridge	State: WI	Sampling Point: wasw033f
Investigator(s): ES/WC	Section, Township, Range:	s. 9 T. 45N R. 3W
Landform (hillslope, terrace, etc.): Swale		one): concave Slope: 1.7 % / 1.0
Subregion (LRR or MLRA): LRR K Lat.:	46.38768276 Long	.: -90.75508411
Soil Map Unit Name: Cornucopia silt loam, 6 to 15 percent slopes		NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of	vear? Yes   No	(If no, explain in Remarks.)
	-	Circumstances" present? Yes ● No ○
		on camerances process.
3 - 1 - 1 3 33 - 3		explain any answers in Remarks.)
Summary of Findings - Attach site map showing	sampling point location	is, transects, important features, et
Hydrophytic Vegetation Present? Yes No	Leather Committed Ameri	
Hydric Soil Present? Yes  No	Is the Sampled Area within a Wetland?	Yes   No
Wetland Hydrology Present? Yes   No		
Hydrology		
Drift deposits (B3)	eaves (B9) B13) 15) e Odor (C1) wheres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) cc (C7)	Secondary Indicators (minimum of 2 required)  Surface Soil Cracks (B6)  Drainage Patterns (B10)  Moss Trim Lines (B16)  Dry Season Water Table (C2)  Crayfish Burrows (C8)  Saturation Visible on Aerial Imagery (C9)  Stunted or Stressed Plants (D1)  Geomorphic Position (D2)  Shallow Aquitard (D3)  Microtopographic Relief (D4)  FAC-neutral Test (D5)
Surface Water Present?  Water Table Present?  Yes No Depth (inches)  Water Table Present?  Yes No Depth (inches)  Saturation Present?  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial pho	: Wetland Hyd	rology Present? Yes  No  lable:
Remarks:		

	Ahsoluto		ecies?	Indicator	Sampling Point: wasw033f  Dominance Test worksheet:
Tree Stratum (Plot size: 30' )	% Cover			Status	Number of Dominant Species
1. Fraxinus nigra	10		12.2%	FACW	That are OBL, FACW, or FAC:4 (A)
2. Abies balsamea	15	✓.	18.3%	FAC	
3. Tilia americana	20	$\mathbf{V}_{\mathbf{I}}$	24.4%	FACU	Total Number of Dominant Species Across All Strata: 7 (B)
4. Betula papyrifera	5		6.1%	FACU	
5. Acer rubrum			8.5%	FAC	Percent of dominant Species That Are ORL FACW or FAC: 57.1% (A/B)
6. Juniperus virginiana	10		12.2%	FACU	That Are OBL, FACW, or FAC: 57.1% (A/B)
7 _ Populus tremuloides	15	✓,	18.3%	FACU	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15' )	82	= To	tal Cove	r	Total % Cover of: Multiply by:  OBL species80 x 1 =80
1 . Fraxinus nigra	10	✓,	17.5%	FACW	FACW species 40 x 2 = 80
2. Tilia americana	15	$\mathbf{V}_{\mathbf{p}}$	26.3%	FACU	
3. Ulmus americana	10	✓,	17.5%	FACW	•
4. Ables balsamea	5		8.8%	FAC	11/100 Spool 05
5. Ostrya virginiana	5		8.8%	FACU	UPL species $\frac{0}{x}$ $x = \frac{0}{x}$
6. Amelanchier arborea			12.3%	FACU	Column Totals: <u>241</u> (A) <u>605</u> (B)
7. Acer saccharum	5		8.8%	FACU	Prevalence Index = B/A = 2.510
Herb Stratum (Plot size: 5' )	57	= 10	tal Cove	r	Hydrophytic Vegetation Indicators:
. Calamagrostis canadensis	80	<b>V</b>	78.4%	OBL	Rapid Test for Hydrophytic Vegetation
2. Athyrium filix-femina	10		9.8%	FAC	✓ Dominance Test is > 50%
3. Onoclea sensibilis	5		4.9%	FACW	✓ Prevalence Index is ≤3.0 ¹
4. Solidago gigantea	5		4.9%	FACW	Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
5. Symphyotrichum lateriflorum	2		2.0%	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6	0		0.0%		
7			0.0%		<sup>1</sup> Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
8	0	$\sqsubseteq$	0.0%		
9	0	$\sqsubseteq$	0.0%		Definitions of Vegetation Strata:
0		Ц.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
1		Ц.	0.0%		at breast height (DBH), regardless of height.
2	0	Ш.	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 15' )	102	= To	tal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2			0.0%		size, and woody plants less than 3.28 ft tall.
3			0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
		- To	tal Cove	r	
	-				
					Hydrophytic Vegetation Present?  Yes  No
emarks: (Include photo numbers here or on a separate	sheet.)				

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw033f

Profile Descri	ption: (Des	scribe to	the dept	h needed to	documen	t the indic	ator or o	onfirm the	e absence of indicators.)			
Depth		Matrix				dox Featu	res		_			
(inches)	Color (ı		%_	Color	moist)	%	Type 1	Loc <sup>2</sup>	Texture Remarks	—		
0-5	10YR	2/2	100						Silty Clay Loam	_		
8-16	10YR	3/2	60	5YR	3/4	10	C	PL	Silt Loam			
+mottle	7.5YR	3/4	30						Silt Loam			
16-24	10YR	2/2	50						Loam	_		
+mottle	7.5YR	4/3	50						Loam	_		
									- ,			
<sup>1</sup> Type: C=Conc	entration. D	=Depletio	n. RM=Re	duced Matrix,	CS=Cover	ed or Coate	ed Sand G	rains <sup>2</sup> Loc	ocation: PL=Pore Lining. M=Matrix			
Hydric Soil II	ndicators:								Indicators for Problematic Hydric Soils: $^{\rm 3}$			
Histosol (A	•					w Surface (	S8) (LRR	R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)			
Histic Epip					A 149B)	(00) (1	DD D MI	DA 140D)	Coast Prairie Redox (A16) (LRR K, L, R)			
Black Histi						ace (S9) (I			5 cm Mucky Peat or Peat (S3) (LRR K, L, R)			
	Sulfide (A4)			_	-	Mineral (F1)		)	Dark Surface (S7) (LRR K, L, M)			
	_ayers (A5)				, ,	Matrix (F2)			Polyvalue Below Surface (S8) (LRR K, L)			
	Below Dark S		.11)		eted Matri				☐ Thin Dark Surface (S9) (LRR K, L)			
	Surface (A1				ox Dark Su		7\		☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
	ck Mineral (S	•				Surface (F	/)		Piedmont Floodplain Soils (F19) (MLRA 149B)			
	yed Matrix (	S4)		∟ Red	ox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Red	lox (S5)								✓ Red Parent Material (F21)			
Stripped M	Matrix (S6)								Very Shallow Dark Surface (TF12)			
☐ Dark Surfa	ace (S7) (LRF	R R, MLRA	149B)						Other (Explain in Remarks)			
<sup>3</sup> Indicators of	hydrophytic	vegetatio	n and we	tland hydrolog	y must be	present, ur	nless distu	rbed or prol	oblematic			
Restrictive La	yer (if obs	erved):										
Туре:												
Depth (inch	nes):								Hydric Soil Present? Yes ● No ○			
Remarks:												



Photo File: DSCN7873.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN7876.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:

Lagritor



# No Photo

Photo File:	DSCN7878.JP	Orientation:	-facing	Photo File: r	none.bmp	Orientation:		-facing
l	ong/Easting:	Lat/	Northing:	L	ong/Easting:	L	.at/Northing:	
Description	:			Description:				

# No Photo

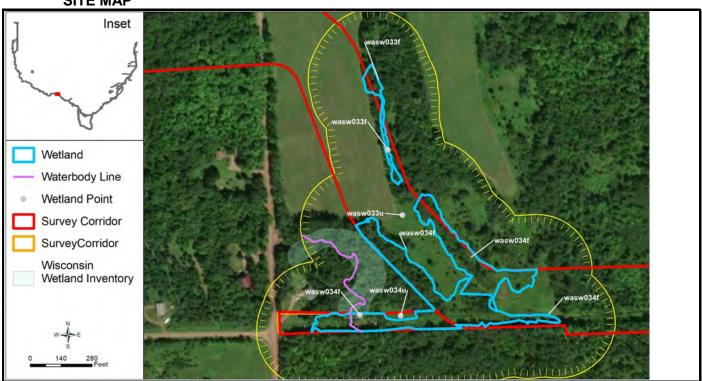
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Photo File:	none.bmp	Orientation:		-facing	Photo File: none	e.bmp	Orientation:		-facing
İ	Long/Easting:		Lat/Northing:		Long	g/Easting:	l	_at/Northing:	
Description	n:				Description:				

# Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

Project name: Line 5 Relocation Project	Evaluator(s): Emily Stulik and Wes Conway				
File #:  Location: PLSS: Section 09 T45N R3W  Lat: 46.38768276 (wasw033f)	Date of visit(s): October 5th, 2019  Ecological Landscape: North Central Forest  Watershed: Marengo River, LS12, 0401030204 and Billy Creek				
SITE DESCRIPTION Soils: Mapped Type(s):	WWI Class: wasw033f: unmapped, wasw034f - T3/5K				
wasw033f, wasw034f: Cornucopia silt loam, 6 to 15 percent slopes Field Verified: Yes	Wetland Type(s):  Forested needle-leaved evergreen  Wetland Size: Wetland Area Impacted 0.89				
Hydrology: Perennial stream, high water table, ground water processes, seeps observed	Vegetation: Plant Community Description(s): Calamagrostis canadensis, Tilia americana, Abies balsamea, Populus tremuloides, Juniperus virginiana, Equisetum arvense, Carex bromoides				

# SITE MAP



#### **SECTION 1: Functional Value Assessment**

		1	Functional Value Assessment
HU	Y/N	Potential	
1	Υ		Used for recreation (hunting, birding, hiking, etc.). List: hunting, ATV recreation, private property
2	N		Used for educational or scientific purposes
3	Υ		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	Υ		In or adjacent to RED FLAG areas
5			List: Billy Creek, ASNRI Trout Stream Class I
6	Υ		Supports or provides habitat for endangered, threatened or special concern species
7		Р	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N		Wetland and contiguous habitat >10 acres
2	Υ		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N		Occurs in a Joint Venture priority township
6	Υ		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	ľ		plans
8	Υ		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Υ		Wetland is connected or contiguous with perennial stream or lake
2	N		Standing water provides habitat for amphibians and aquatic invertebrates
3		Р	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4		Р	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ		Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N		water levels or high flows – if no, not applicable
3	Υ		Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ		Water flow through wetland is NOT channelized
3	Y		Dense, persistent vegetation
4	Υ		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	-		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y		Water flow through wetland is NOT channelized
4	Y		Vegetated wetland associated with a lake or stream
5	Y		
6	N		Dense, persistent vegetation
7	Y		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
	Y		Stormwater or surface water from agricultural land is major hydrology source
8	Y		Discharge to surface water
9	T T		Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Υ		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU 7 - Ongoing cultural resources on site wetlands are forested/emergent complexes located in residential and agricultural landscape adjacent to upland field, residential property, paved road wetland adjacent to Billy Creek, 2nd order stream indicators of groundwater observed in emergent wetland strip between forests: standing water, seeps Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Large Ranid spp. Frog, American toad metamorph, Ruffed grouse Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat fish and water striders in stream

# **SECTION 2: Floristic Integrity**

Plant Community Integrity (circle)\*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

<sup>\*</sup>Note: separate plant communities are described independently

# Plant Species List (\* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Abies balsamea*	balsam fir	5	wasw033f; wasw034f	
Acer rubrum	red maple	3	wasw033f; wasw034f	19%
Acer saccharum	hard maple, sugar maple	5	wasw033f	5%
Amelanchier arborea	downy Juneberry, common serviceberry	6	wasw033f	7%
Athyrium filix-femina	common lady fern, lady fern	5	wasw033f	10%
Betula alleghaniensis*	yellow birch	7	wasw034f	37%
Betula papyrifera	canoe birch, paper birch, white birch	3	wasw033f; wasw034f	20%
Calamagrostis canadensis*	blue-joint grass	5	wasw033f; wasw034f	80%
Carex bromoides	brome-like sedge	8	wasw034f	15%
Carex crinita	fringed sedge	6	wasw034f	7%
Equisetum arvense	common horsetail, field horsetail	1	wasw034f	25%
Equisetum pratense	meadow horsetail	9	wasw034f	1%
Eutrochium maculatum	spotted Joe-Pye-weed	4	wasw034f	1%
Fraxinus nigra*	black ash	8	wasw033f	20%
Fraxinus pennsylvanica	green ash, red ash	2	wasw034f	0%
Juniperus virginiana*	eastern red-cedar	3	wasw033f; wasw034f	37%
Onoclea sensibilis	sensitive fern	5	wasw033f; wasw034f	
Ostrya virginiana*	eastern hop-hornbeam, ironwood	5	wasw033f; wasw034f	
Populus tremuloides*	aspen, quaking aspen	2	wasw033f; wasw034f	40%
Solidago gigantea	giant goldenrod	3	wasw033f; wasw034f	10%
Symphyotrichum lanceolatum	panicled aster	4	wasw034f	5%
Symphyotrichum lateriflorum	side-flowering aster	3	wasw033f	2%
Tilia americana*	American linden, basswood	5	wasw033f; wasw034f	45%
Ulmus americana*	American elm, white elm	3	wasw033f; wasw034f	17%

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)								

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
, ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
х	х		L		Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	х		М		Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

<sup>\*</sup> L= Low, M = Medium, H = High

## **SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)**

Phalaris observed outside of sample plot within emergent wetland corridor of utility line							

<sup>\*\*</sup>Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

# **SUMMARY OF FUNCTIONAL VALUES**

FUNCTION	SIGNIFICANCE								
	Low	Medium	High	Exceptional	NA				
Floristic Integrity		x							
Human Use Values									
Wildlife Habitat									
Fish and Aquatic Life Habitat			х						
Shoreline Protection					х				
Flood and Stormwater Storage		x							
Water Quality Protection		x							
Groundwater Processes		х							

FUNCTION	RATIONALE
Floristic Integrity	good assemblage of native species. Phalaris observed outside sampled plot within wetland
Human Use Values	located adjacent to residential house on private property
Wildlife Habitat	emergent wetland, forested wetland, and upland grassland complex all contiguous. Potential to support rare species. Standing water supports lithobates amphibian
Fish and Aquatic Life Habitat	Billy Creek supports fish species, water striders
Shoreline Protection	N/A
Flood and Stormwater Storage	wetland adjacent to Billy Creek, within watershed with <10% wetland
Water Quality Protection	wetland adjacent to Billy Creek, dense, persistent vegetation present
Groundwater Processes	seeps and standing water evident

# **Section 4: Project Impact Assessment**

Brief Project Description Enbridge Line 5 pipeline route analysis.		
Enbridge Line 5 pipeline route analysis.		

# **Expected Project Impacts**

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	medium
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	low
Cumulative Impacts	Operational vegetation maintenance.	low
Spatial/Habitat Integrity	Temporary construction impacts.	low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 05-Oct-19				
Applicant/Owner: Enbridge				State: WI	Sa	 impling Point:	wasw033u
Investigator(s): ES/WC			Section, 1	Township, Range:	<b>s</b> . 9	T. 45N	<b>R</b> . 3W
Landform (hillslope, terrace, etc.):	- lat		_ Local relief (d	concave, convex, n	none): flat		Slope: 0.0 % / 0.0
Subregion (LRR or MLRA): LRR K		Lat.:	46.38686865	Long	-90.75485	331	Datum: WGS 1984
Soil Map Unit Name: Superior-Sedgv	vick comple					ssification: No	one
Are climatic/hydrologic conditions or	the site tv	pical for this time of v	ear? Ye	es   No	— (If no. explai	n in Remarks.)	
	, or Hydrol		ly disturbed?		Circumstance		Yes ● No ○
	, or Hydrol		roblematic?			s present: swers in Rema	
Summary of Findings - Att	-						
	Yes O	No   No	Jamping	point location	13, 11 41130	- Import	
Hydrophytic Vegetation Present?	Yes O	No •	Is th	e Sampled Area			
Hydric Soil Present?	Yes O	No •	with	in a Wetland?	Yes ○ No		
Wetland Hydrology Present?							
Remarks: (Explain alternative proc	edures her	e or in a separate repo	ort.)				
Upland point sampled in open field							
Hydrology							
Wetland Hydrology Indicators:					Secondary Inc	dicators (minimur	m of 2 required)
Primary Indicators (minimum of or	e required:	check all that apply)				Soil Cracks (B6)	
Surface Water (A1)		Water-Stained Le	aves (B9)			Patterns (B10)	
High Water Table (A2)		Aquatic Fauna (B				n Lines (B16)	
Saturation (A3)		Marl Deposits (B1				on Water Table (	02)
Water Marks (B1)		Hydrogen Sulfide				Burrows (C8)	<i>-</i> 2,
Sediment Deposits (B2)		Oxidized Rhizosph		na Roots (C3)		n Visible on Aeria	I Imagery (C9)
Drift deposits (B3)		Presence of Redu	-	ng Roots (65)		or Stressed Plants	- · · ·
Algal Mat or Crust (B4)		Recent Iron Redu		oils (C6)		hic Position (D2)	, (51)
Iron Deposits (B5)		Thin Muck Surfac		olis (co)		Aquitard (D3)	
Inundation Visible on Aerial Imager	v (B7)		` '			ographic Relief (D	14)
Sparsely Vegetated Concave Surface		Other (Explain in	Remarks)			ral Test (D5)	/ <del>+</del> /
Spansory regetated conteave surran	c (50)				FAC-fieut	rai rest (D3)	
Field Observations:							
Surface Water Present? Yes		Depth (inches):		_			
Water Table Present? Yes	No 💿	Depth (inches):		— Wedlend Hed	nalamı Duasan	t? Yes	No •
Saturation Present? (includes capillary fringe) Yes	No 💿	Depth (inches):	_	wetiand Hyd	rology Presen	it? les 🔾	NO ©
Describe Recorded Data (stream ga	uge, monit	oring well, aerial phot	os, previous i	nspections), if avai	ilable:		
Domarke							
Remarks:							

201		—S e R		Indicator	Sampling Point: wasw033u  Dominance Test worksheet:
Tree Stratum (Plot size: 30' )	% Cover			Status	Number of Dominant Species
1. Populus tremuloides		<b>✓</b>	100.0%	FACU	That are OBL, FACW, or FAC: (A)
2	0		0.0%		Total Number of Dominant
3	0		0.0%		Species Across All Strata:4(B)
4	0	L	0.0%		
5	0		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
6	0	L	0.0%		That Are OBL, LACW, OF LAC.
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	15	= T	otal Cove	r	Total % Cover of: Multiply by:
	-		1/ 70/	FACIL	0BL species 0 x 1 = 0
1. Populus tremuloides	5	✓	16.7%	FACU	FACW species 93 x 2 = 186
2. Lonicera canadensis			1	FACU	FAC species 10 x 3 = 30
3			0.0%		FACU speci es $61 \times 4 = 244$
4			0.0%		UPL species $\frac{10}{10} \times 5 = \frac{50}{10}$
5			0.0%		Column Totals:174 (A)510 (B)
6			0.0%		dorum lotars.
7			0.0%		Prevalence Index = B/A = 2.931
Herb Stratum (Plot size: 5' )	30	= T	otal Cove	r	Hydrophytic Vegetation Indicators:
4 0 11 1	2		1.7%	FACU	Rapid Test for Hydrophytic Vegetation
1 <u>Solidago canadensis</u> 2 Solidago gigantea			12.6%	FACW	☐ Dominance Test is > 50%
<u></u>			4.2%	FACU	✓ Prevalence Index is ≤3.0 ¹
A 80 10			5.9%		☐ Morphological Adaptations <sup>1</sup> (Provide supporting
4. Pteridium aquilinum		<b>✓</b>	1	FACU	data in Remarks or on a separate sheet)
5. Phalaris arundinacea				FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6. Symphyotrichum lanceolatum			4.2%	FACW	<sup>1</sup> Indicators of hydric soil and wetland hydrology mus
7. Rubus pubescens	· -		2.5%	FACW	be present, unless disturbed or problematic.
8. Achillea millefolium	· -		1.7%	FACU	Definitions of Vegetation Strata:
9. Hypericum perforatum			4.2%	UPL	Seminorio de la Sperimenta di atta
O. Leucanthemum vulgare			4.2%	UPL	Tree - Woody plants, 3 in. (7.6 cm) or more in diamete
1			0.0%		at breast height (DBH), regardless of height.
2		_	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 15' )	119	= T	otal Cove	r	greater than 3.28 ft (1m) tall
1. Vitis riparia	10	<b>~</b>	100.0%	FAC	Herb - All herbaceous (non-woody) plants, regardless
2.	0	$\bar{\Box}$	0.0%		size, and woody plants less than 3.28 ft tall.
		$\overline{\Box}$	0.0%		
	U				1 14/1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3		$\bar{\Box}$	,		Woody vine - All woody vines greater than 3.28 ft in
•	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in height.

<sup>\*</sup>Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw033u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)												
Depth		Matrix			ox Feature	5		_				
(inches)	Color (ı	moist)	%	Color (moist)	%	Type 1	Loc2	Texture Remarks				
0-8	10YR	3/2	100					Silt Loam				
8-16	10YR	3/2	50					Silt Loam				
+mottle	7.5YR	4/4	50					Silt Loam				
16-24	7.5YR	4/4	100					Silt Loam				
			-									
								-				
								· · · · · · · · · · · · · · · · · · ·				
	<del></del> -		-					· · · · · · · · · · · · · · · · · · ·				
								-				
,,		=Depletio	n. RM=Red	duced Matrix, CS=Covere	ed or Coated	Sand Gr	ains <sup>2</sup> Loc	cation: PL=Pore Lining. M=Matrix				
Hydric Soil I								Indicators for Problematic Hydric Soils	:: <sup>3</sup>			
Histosol (A	•			Polyvalue Belov MLRA 149B)	/ Surface (S8	) (LRR R	,	2 cm Muck (A10) (LRR K, L, MLRA 149E	3)			
Histic Epip				☐ Thin Dark Surfa	ce (S9) (LRI	R R. MLR	A 149B)	Coast Prairie Redox (A16) (LRR K, L, R)	1			
Black Histi	Sulfide (A4)			Loamy Mucky M			,	5 cm Mucky Peat or Peat (S3) (LRR K, I	L, R)			
_	Layers (A5)			Loamy Gleyed N		. ,		Dark Surface (S7) (LRR K, L, M)				
	Below Dark S	Surface (A	11)	Depleted Matrix				Polyvalue Below Surface (S8) (LRR K, L	.)			
	Surface (A1		.11)	Redox Dark Sur				☐ Thin Dark Surface (S9) (LRR K, L)				
	ck Mineral (S			Depleted Dark				Iron-Manganese Masses (F12) (LRR K, L, R)				
	yed Matrix (	•		Redox Depressi				Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Red		34)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Stripped N								Red Parent Material (F21)				
	ace (S7) (LRI	R MIRA	149R)					☐ Very Shallow Dark Surface (TF12)				
				and hydrology myst ba		oo diotuud	h o d o v n v o b	Other (Explain in Remarks)				
			n and well	and hydrology must be	present, unie	ss disturi	bea or pro	Diematic				
Restrictive La	ayer (IT obs	ervea):										
Type:	200).							Hydric Soil Present? Yes No	D			
Depth (inch	ies):											
Remarks:												



Photo File: DSCN7882.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting: Description:

Lat/Northing:



Photo File: DSCN7883.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:

		Plot ID: was	w033u	1 11010	Taur. C. WVEII	Jilli Livi Lilie 3 i ipe	IIIIe (I IIO
Photo File: DSCN Long/E	on: Lat/Northing:	-facing	Le	PSCN7885.JPG ong/Easting:	Orientation:	Lat/Northing:	-facing
Description:			Description:				
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# No Photo

# No Photo

Photo File: none.bmp	Orientation:	-facing	Photo File: None.bmp	Orientation:	-facing
Long/Easting	: Lat/Northing	g:	Long/Easting:	Lat/Northing:	
Description:			Description:		